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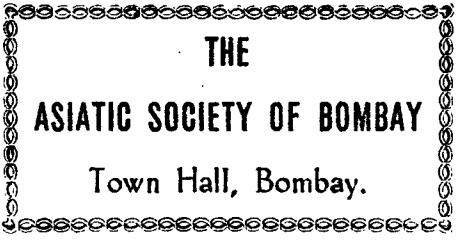

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THE NATIONALISATION OF HEALTH

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BY

HAVELOCK ELLIS

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"The fate of man is in his own hands."

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PREFACE.

I HAVE here pleaded that the primary conditions of health should be recognised as of first importance to the community. They have been so recognised, so far as they have been understood, in every great period of civilisation of which we have much knowledge, as Roman and Moorish ruins alone suffice to testify. That they are not so recognised to-day is the chief element of rottenness in our own civilisation. We postpone laying the foundations of our social structure in order to elaborate its pinnacles. We are acquainted with all possible openings for commerce through

the world; we have explored the psychological ramifications of sentiment; and we do not know the course of the main sewers in our city, and we pollute the sources of the water we drink. We have not yet learnt that a great civilisation is ill built up on the bodies of men and women enfeebled and distorted by over-work, filth and disease.

I have further urged that the present time is peculiarly favourable for taking in hand seriously the organisation and socialisation of the elementary conditions of health. We have long left this primary duty to the spasmodic and confused action of charities, and to the interested action of individuals and corporations. The beginnings of more rational and organised methods now exist: the task before us is to develop them. The Third Report of the Lords' Committee on Metropolitan Hos-

pitals, issued when the bulk of this little book was ready for the press, is a valuable summary of the most influential opinions on certain aspects of the organisation of health; and we may reasonably hope that, even though in a very small way, the moderate suggestions of the Committee may help to inaugurate a new movement. Personally I have no elaborate plans or panaceas to bring forward: it is not the business of an individual but of the community to make plans as they are required.

This brief discussion of the Nationalisation of Health deals with but a few aspects of a very large matter. I have here only turned over quickly a few pages in the terrible history of modern England, which in this matter is that of modern Europe generally. After the manner of the biologist, I have selected a few type specimens as examples of the rest.

My interest in health questions dates from many years back; my belief in the possibility of the organisation of health began with my acquaintance with the conditions of health as revealed by medical experiences in London, in large manufacturing towns, and in rural districts. Beyond a very limited but somewhat varied experience, I have no special knowledge of these matters. I do not really see why I should write about them more than any other person. They concern every one, and I have my own work to do. But in the face of the apathy and the ignorance that exist among us to-day, it seems to be the duty of any one who has an opportunity of realising the evils around us to point out the paths of safety. It is only the arm-chair statistician who can rest comfortably when he has shown that in some other age or in some other land

the amount of disease or death due to this or that cause has been even greater than it is among us to-day. The diseases of the soul will always be largely incalculable and beyond our reach. The sins of the body, which, whatever the moralists may say, must always touch the mass of men more nearly, are largely within our grasp. Is it not worth while to combine to resist them, and in so doing to lay more surely the foundations of our social structure?

H. E.

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THE
NATIONALISATION OF HEALTH.

I.

INTRODUCTION.

The key-note of modern methods—The rise of bacteriology and its significance—Sketch of the development of health movements—Congresses of Hygiene.

We possess to-day a closer grip of the conditions of health than has ever been possible before; we now realise that these conditions are of a complex character, and we are able, to a large extent, to unravel their complexity and to show clearly what a man should do who would live a healthy life. Medicine is no longer an affair of drugs—useful as these are in their place—and

methods that were adopted by our barbarous ancestors when they called in the aid of the medicine-man's incantations are nearly out of date. An organism badly born and badly bred, always placed under unwholesome conditions and slowly saturated with disease, finally breaks down and is brought to the doctor to be drugged into health: it is a sorry task for medical science, and, what is of much more consequence, it involves fearful expense, not merely to the individual, but to all those with whom he comes in contact, expense of money, expense of happiness, expense of life. The key-word of our modern methods is not *cure* but *prevention*, and while this task is more complex it is also far easier. It is to a gigantic system of healthy living, and by a perpetual avoidance of the very beginnings of evil, that our medical science is now leading us.

A few allied discoveries of quite recent times have, more than anything else, given an impetus in these new and fruitful paths of medicine. The trivial discovery by Leuwenhoek, a couple of centuries ago, of micro-organisms, underlies the now world-famous antiseptic system, initiated by an Englishman, Sir Joseph Lister, which has within the last fifteen years revolutionised surgery, and given us a mastery never before imagined over the process of disease.

The brilliant and varied researches of Pasteur, centring around his great discovery, in 1869, that certain diseases are caused and propagated by micro-organisms, his subsequent discoveries that these micro-organisms could be isolated, cultivated, inoculated, attenuated, and the epoch-marking discovery by Koch, in 1881, of the bacillus of tubercle, have at the same time revolutionised pathology, and opened out

new horizons. They have given us an easy control over many diseases; they have indicated the paths in which we must seek the elimination of disease. Every fresh discovery—and discoveries are rapidly accumulating—of a micro-organism causing disease is a promise by no means necessarily of a cure for that disease, but of the possibility of setting up an effectual barrier against its invasion.

The picture of the world presented to us by the bacteriologist is undoubtedly somewhat awful, resembling the conception of the mediæval Christian. We are surrounded by legions of invisible foes, always ready to take advantage of a false step, of the least crevice in our armour. And it is satisfactory to feel assured that our right course of action does not lie in swathing ourselves—either literally or metaphorically—in antiseptic cotton wool. We have

another and better shield for allowing us to move, for the most part, untouched among our enemies. Fresh air and reasonable garments, cleanliness in the full sense of the word, pleasant work and varied exercise, wholesome and abundant food, the healthful play of the secretions and excretions — these are the things that enable some to resist while others succumb. The prevention of disease is something more than a hand-to-hand fight against definite foes. It is a complex organisation of health.

Together with the growth of our knowledge of the causes of disease there has been thus slowly growing up also a new kind of warfare against disease. It is this science of hygiene which is now promising to transform all the old traditional ways of dealing with disease, and which now makes possible the organisation of the conditions

of health. And this science of hygiene, it must be repeated, rests on the exact knowledge of the causes of disease which we are now obtaining. So long as we are ignorant of the causes of disease we must be content to deal with its manifestations as they arise in each individual in accordance with the traditional methods of medicine. When we understand the causes of disease we can go to the root of the matter; we can deal with disease collectively instead of individually; we can make medicine preventive, and we can render possible the nationalisation or socialisation of health.

At the beginning of the eighteenth century Mead, a famous physician of that day, whose reputation still lives, had proposed the formation of a central board of health to organise common measures for the public safety. It was not, however, until more than a hundred years later, in 1831, under

the influence of the terror of cholera, that this first step was taken; so that, as it has been well said and often since proved, "panic is the parent of sanitation." In 1842 Sir Edwin Chadwick issued his report on "The Sanitary Condition of the Labouring Population of Great Britain." This report produced marked effect, and may truly be said to have inaugurated the new era of collective action, embodying itself in legislation directed to the preservation of national health, an era which is thus just half a century old. Chadwick's report led to a Royal Commission, which was the first step in the elevation of public health to a State interest; and a few years later (1847) Liverpool, and immediately afterwards London, appointed the first medical officers of health in Great Britain. In 1848 another epidemic of cholera appeared, and a General Board of Health was established. During

this epidemic Dr. Snow began those inquiries which led to the discovery that the spread of the disease was due to the contamination of drinking-water by the intestinal discharges of patients. That discovery marked the first great stage in the new movement. Henceforth the objects to be striven for in the evolution of sanitation became ever more clear and precise, and a succession of notable discoveries in connection with various epidemics enlarged the sphere of sanitation, and revealed new possibilities in the prevention of human misery. The necessity of purity of water-supply and of efficient drainage was demonstrated, and a gradual knowledge of the local distribution of disease and of the industrial condition of the nation was slowly built up. Dr. Farr's elaborate reports, founded on the vital statistics of the nation, were of great value in keeping

alive an active interest in these matters by demonstrating the progress gradually made and the possibility of further advances. In 1866 the beneficial influence of a new cholera scare led to the passing of a Sanitary Act, which established the *duty* of local authorities to provide for the healthiness of their districts, and thus a further stage in the evolution of this great movement was reached. The way was paved for the recognition of the broad principle that a chief business of local government is the care of public health. In 1872, as the natural outcome of the progress already made and of a new Royal Commission, the Public Health Act provided for complete sanitary organisation, and for the universal appointment of medical officers of health. This mapping out of the country into health-districts and the recognition that the care of public health is a great function

of local government was a splendid idea worthily carried out. But it was not altogether successful; it was too far ahead of the public opinion of the day. Local authorities are still ignorant; they are not prepared to recognise that the care of public health is their most important function; and they are frequently unwilling to pay more than a nominal salary to their medical officers of health. Moreover, their own private interests, as well as their conservative tastes and traditional practices, frequently stand in the way of efficient sanitation, and the medical officer must often recommend reform at his peril. So it comes to pass that in 360 rural districts the salary of the medical officer of health, appointed by the Board of Guardians under the Act of 1872, averages but £21 10s., and in 252 urban districts but £14 10s.; and while there are in England and Wales some

1,500 medical officers of health, little more than 100 (or less than one in 15) are health experts in the sense of being free from practice and solely engaged in sanitary work. There is yet therefore very much to be accomplished.

The duty of the County Councils, assisted by medical experts, to watch over the health conditions of large areas, is doing much to counteract the apathy of small local bodies and to stimulate the energies of medical officers of health and of sanitary inspectors; the establishment of the Councils has been an important step in the right direction.*

* I may refer, for instance, to the energy of the Cornish Council, and to its Health Report for 1891, which reflects great credit on the Council's Sanitary Committee and their Chairman. A feature of the report well worth imitation is the large number of diagrams and coloured maps showing the distribution of the mortality from the chief diseases over the rural divisions of the county. It is noteworthy that those divisions which the Council has found most recalcitrant to sanitary reform are those which come out worst in the maps. It sometimes requires considerable pressure to effect

The Infectious Diseases Notification Act of 1889 marks another important stage in the gradual evolution of the process by which health is becoming nationalised. The exact registration of disease is an essential part of all effective and comprehensive sanitation. This Act is now extended so as to apply to nearly five-sixths of the population of England and Wales. The notification and isolation of infectious disease enables us to limit epidemics, to define the areas in which they are found, and to trace the insanitary conditions by which they are produced or favoured. Even this Act, however, which renders optional the inclusion of two such wide-spread and fatal diseases as measles and whooping-cough,

any progress. Thus the Sanitary Authority at St. Ives, which had repeatedly refused to adopt the Notification Act and allied measures, has only been brought to reason during the summer of 1892 by a slight local outbreak of small-pox and "chicken-pox."

shows the progress which has yet to be made.

Together with the beginnings of this movement for the nationalisation of health, there has been a still later movement of international character, finding expression in Congresses. The honour of holding the first International Congress of Hygiene belongs to Belgium: it took place at Brussels in 1876. The French then adopted the idea, and made the Congress a permanent institution, meeting every two years. England, always behindhand where international movements are concerned, sent very few members to these Congresses, and it was not until 1891 that an International Congress of Hygiene and Demography was held in England. On the whole these Congresses have done much to consolidate, unify, and stimulate the various movements connected with public health.

II.

THE TREATMENT OF DISEASE.

By the medium of friendly societies—By private practice—By voluntary and charitable hospitals—The art of professionalism—Tolstoi on the private practitioner—Advantages and disadvantages of the hospital system.

I HAVE briefly sketched the present position of the new movement for the prevention of disease. Let us now turn to the present position of the far more ancient system of the treatment of disease.

There are, speaking generally, and omitting minor varieties, three chief methods practised in England to-day for distributing medical assistance.

1. Private practice; that is to say that a medical man establishes himself in a dis-

trict and supplies medical assistance (usually including medicine, except when his patients are of a well-to-do class) by private arrangement, sending in a bill at stated periods.

2. By the medium of friendly societies. By this method the local branch of the friendly society contracts with a local medical man to supply medicine and medical advice to its members in consideration of a certain annual payment by the society.

3. By the medium of voluntary hospitals. In this case the patient is admitted to a charitable institution, either by subscriber's letter or on the merits of the case, and receives gratuitously the care of the medical and nursing staff.

The second of these two methods, the club system, may be dismissed briefly; few persons who know anything about it will question that, while under existing circum-

stances it is a valuable makeshift, it is far from being satisfactory either in theory or in practice. It is a noteworthy fact that the best and most independent working men, while belonging to a friendly society, prefer paying their own doctor to going to the club-doctor; while young medical men of energy and ability set their faces so far as they can against club-practice.* For the fact is that the method is equally unsatisfactory to both parties, and encourages constant suspicion and intrigue. The patient, in the club-doctor's opinion, often becomes ill because he wants a holiday, or because (as is unfortunately sometimes the case) he can get more money out of the

* As the medical officer of a friendly society remarks, perhaps too strongly (*Lancet*, Oct. 8, 1891): "None of the men who hold these offices care for them. There is always an innate feeling of self-degradation." To show how much they are sought after, however, the same writer remarks that when he was appointed to a post of this kind worth £250 a year there were seventy-two applicants, all well qualified.

clubs he belongs to by the help of a doctor's certificate than he can earn by working. Conscious that he is treated with suspicion by the doctor, the club-patient naturally takes up a corresponding attitude, and is resolved to insist upon his rights to the utmost. The club-doctor on his side knows that he works very hard for the club and sees very little return for his labour, and he comes to view with impatience this unending stream of unprofitable patients. At the same time he may know that nearly every medical man in the town envies him, and that some of them are perhaps lending themselves to a growing faction that is seeking to depose him. A scene of unappreciated comedy is sometimes played in the club-doctor's consulting room. A stolid peasant enters deliberately, grasping his stick in one hand, his empty bottle in the other. The doctor looks at him: "Well,

what's the matter now?" The patient replies slowly and laconically that he still has that pain across here. The doctor scrutinises the patient through his spectacles severely; the patient remains impenetrable and phlegmatic. Then the doctor takes the bottle; he scrutinises this also with trained eyes, thinks he detects signs that the patient has taken two doses and thrown away the rest. Then he scrutinises the patient again; but John Bull sits as before, grasping his stick and not moving a single muscle; it may be the consciousness of rigid uprightness; it may be the mask of unfathomable cunning. The propriety of a physical examination suggests itself to the doctor; he percusses and auscultates here and there. The results, from whatever reason, are negative. He gives it up; hastily fills the bottle with a cheap and nauseous mixture, compounded

especially for the benefit of club-patients, signs the certificate, and thrusts both into the man's hand. Then he turns with a smile of beaming benevolence to the next person, who happens to be a private patient. It is scarcely surprising that not every working man cares to be a club-patient, and that few medical men regard such patients with any satisfaction. The fault, it must be repeated, lies for the most part neither with patient nor doctor; least of all with the friendly society. The method is a bad one, and while it provides what is better than no medical aid at all, we cannot look to it for the germ of any more permanent and general system.

It is obvious at once how much more advantageous the system of private practice is for both parties. The patient can go to any doctor he likes; he can change his doctor as often as he pleases; and as the

payment is in the ratio of services rendered, he feels that he is able to assume an air of independence, or, if circumstances permit, of patronage. He knows that his "medical attendant" (that is the private practitioner's time-honoured title) may be relied upon to come at his earliest summons, and to treat his symptoms with all the attention and sympathy they merit. And when, as happened formerly, perhaps, more frequently than now, the doctor has known the family for many years, and is familiar with all their peculiarities and all their little ailments, he becomes, so far at all events as those ailments are concerned, the most skilful and experienced adviser that the patient could obtain: at the same time his position is that of a trusted counsellor and friend. On his side the private practitioner may have little to complain of. It is true that at the outset of his career he often finds that

patients are alarmingly few; and that as time goes on he complains that he is being worked to death; but he does not forget that the pay is in proportion to the work, and that the work is full of human interest.

This is one's first impression on taking a general survey of the method of private medical practice; and until comparatively recent times it was regarded as a final view of the matter. But let us look into it a little more closely. It is true that for ordinary ailments the private practitioner cannot generally be improved upon, and such ailments form the majority of cases in which his aid is required. But the minority is precisely the most grave and urgent proportion, and here, too often, the private practitioner is lamentably at fault. That he is so is usually his misfortune. Medicine nowadays is a complex business; and long and arduous as is the course of the medical

student he cannot be a master of everything, even with the best will and a very fair capacity. The general public are, indeed, already so thoroughly impressed with this truth that they constantly leave their own "medical attendants" to consult a specialist at some large centre—often quite unnecessarily. The old school of practitioners who know nothing of the clinical thermometer, and who regard the stethoscope as an unnecessary luxury, are rapidly dying out, though they still survive here and there. But under no conditions, even with the very best scientific training, is it possible to give the private practitioner a full equipment of skill and of instruments. Every year it is becoming less possible. The sum of skill is increasing, and the means of applying it; but the individual private practitioner's chance of using them must remain strictly limited. Too many of

us are acquainted with instances, so constantly occurring, of ignorance, of deficient judgment or skill on the part of private practitioners—broken limbs so badly set that they are useless save at the price of a serious operation; a dislocated shoulder, even, treated merely with a bandage and a liniment; tumours not diagnosed until another medical man is called in to find that there is now no help possible; diphtheria repeatedly diagnosed as mumps by the sixpenny East-End doctor; an imprudently administered opiate, and the immediate result, death. I do not wish to insist on this aspect of the question, and unfortunately it is not necessary to do so. In surgery the private practitioner is generally feeble and timid. It is not compulsory in England to perform a single operation in order to become a private practitioner; and the private practitioner persuades his well-

to-do patient to call in a hospital surgeon; while if the patient is poor he either refuses to undertake the case at all, or puts him to great inconvenience and expense by ultimately sending him, perhaps a long distance, to some large hospital, sometimes merely to receive a snip or two with scissors or knife that is done in less than a minute. It is doubtless chiefly owing to this timidity that, in the manipulation of joints, the "bone-setter" in the north of England frequently obtains such brilliant successes when the private practitioner has failed. It would not be fair, however, to suppose that it is always, or even generally, from incompetence that the private practitioner refuses to perform a trifling operation. Here again it is the system rather than the man that is at fault. He knows that under the most favourable circumstances there is a certain risk, even in a trifling operation:

it is not worth his while to run the risk, alone, of possible and unmerited discredit. In diagnosis the private practitioner is usually perfectly reliable when the ailment is simple and familiar; it would perhaps be too much to expect him to be very skilful outside the beaten track, and his errors are, very frequently, signal, though not necessarily grave in their consequences. It is the exception to find a private practitioner examining his patient carefully and methodically; he perhaps prides himself (often with justice) on his aptitude for diagnosing instinctively and immediately; for various reasons he generally finds, sooner or later, that in private practice careful examination is a mistake; sometimes his patient suffers in consequence, sometimes his own reputation. In the matter of treatment the private practitioner has certain routine practices which answer well on the whole,

but he is not sufficiently in touch with fellow-practitioners to be able to make much progress, or to follow intelligently recent therapeutic advances. He rarely fails to take in some medical journal, but that is not quite the same thing as present and quickening experience. In regard to instruments, either for diagnosis or treatment, his case is hopeless; the experience, trouble, and expense which instruments involve render them a luxury which he avoids so far as possible; and yet they are more and more coming to the front. Take, even, the ophthalmoscope, now regarded as indispensable; what percentage of private practitioners, one would like to know, are competent to use it intelligently?

The sole object of a doctor's activity is supposed to be the cure of his patient; and there should therefore be nothing to impede him in the attainment of this object. But

how is the private practitioner situated? A new patient enters his consulting-room for advice and medicine. The doctor must ask himself: Can he pay? and by a few judicious questions he is generally soon able to come to a decision on the matter. If it is unfavourable he perhaps makes up a mixture, and holds out the bottle with a polite but firm request for immediate payment of the trifling sum at which active competition has obliged him to rate his services. Not infrequently the patient departs without the medicine. But suppose that he is dealing with one of his best patients—he must still keep an eye on something which is beside the main aim: he must consider what his patient wants, humour him, make himself agreeable, maintain his own credit and an air of general control over the circumstances of the case. These accomplishments impart to the

private practitioner that professional manner which is an art by itself, altogether distinct from the qualities that make him a skilful physician. Here again it is not fair to blame the private practitioner. It constantly happens that a doctor—sometimes even a man who stands near the head of his profession—is deserted by a patient for some one else of inferior ability who can speak with assurance and is a master in the arts of professionalism.*

* If any one does not quite realise this professionalism let him turn to the novels in which Tolstoi, with that calm realism which makes his books equally interesting to those who care for life or art, describes incidentally the private practitioner. Ivan Ilyitch, for instance, is a judge who, noticing in himself certain obscure symptoms of illness, gradually increasing, resolves to consult a famous doctor.

"He went. Everything was as he expected; everything was done according to the usual way—the having to wait, and the pompous doctorial air of importance, so familiar to him, the same as he himself assumed in court, and the tapping and the auscultation and the leading questions requiring answers predetermined, and apparently not heard, and the look of superlative wisdom which seemed to say:

During the last half-century a change has taken place which has done much to dislocate the private practitioner. Fifty years ago it was the universal custom for students to be apprenticed for at least eighteen months to a private practitioner. They

'You, now, just trust yourself to us, and we will do everything; we understand without fail how to manage; everything is done in the same way for every man.' Everything was just exactly as in court. The airs that he put on in court for the benefit of those brought before him, the same were assumed by the famous doctor for his benefit."

Or, again, near the fatal termination of Ivan Ilyitch's illness:—

"There! the bell in the corridor. It is the doctor, fresh, hearty, portly, jovial, with that expression as if he said: 'You may feel apprehension of something or other, but we will immediately straighten things out for you.' The doctor knows that this expression is not appropriate here, but he has already put it on, and he cannot rid himself of it —like a man who has put on his dress-coat in the morning and gone to make calls. The doctor rubs his hands with an air of hearty assurance. 'I am cold. A healthy frost. Let me get warm a little,' says he, with just the expression that signifies that all he needs is to wait until he gets warmed a little, and when he is warmed then he will straighten things out."

probably gained very little insight into the science of medicine, but they were thus undoubtedly enabled to acquire a considerable acquaintance with the art of private practice. Then they came up to London, "walked the hospitals" for a time, were examined at the College of Surgeons and at Apothecaries' Hall, and the thing was done. The examination at the College, we are told, occupied twenty minutes only, and was entirely *viva voce*. This simple little proceeding is curiously unlike the prolonged and complex ordeal, lasting at the least five years, with an examination at every turn, through which the would-be private practitioner has to pass nowadays, but it succeeded in producing the typical private practitioner. This the present system will never be able to do. The student now is trained from first to last at a hospital. This fosters careful and

exact methods of study, a simple and straightforward way of dealing with patients, a full and various acquaintance with cases and treatment. But it does nothing to furnish the student with that tincture of professionalism of which the private practitioner makes such large use; nor—a more important matter—does it give the student much opportunity of studying those trivial complaints to which the private practitioner must chiefly confine his attention. Thus it happens that when the young medical man is pitchforked into a private practice he has very often nearly the whole art to learn, and sometimes no special aptitude for such learning. Moreover, it is by no means always the most skilful man who is best able to pick up the arts of professionalism, or who is most desirous of doing so, and it is not without an effort that he recognises the necessity of this demoralising art, and

the inevitable concomitant adoption of the methods of the small shopkeeper in doling out his pills, potions, and advice.

The question of payment leads us to another of the disadvantages of the method of private practice, and to one of the most serious. It has long been a matter of good-humoured comment that the doctor is only paid so long as his patient is ill, and that it is his interest to keep him so. His business is to cure if he can; if not, to alleviate —rarely to prevent. That this plan is flagrantly abused by the private practitioner, those who are best acquainted with him will be most ready to deny; and it is by no means uncommon for the private practitioner to inform the patient that he (or more often she) needs neither medicine nor medical advice. But the fact that the system is not often abused is scarcely a sufficient justification for its existence.

One other point may be alluded to. The inevitable development of specialism in private practice and its evils have been frequently pointed out. The growing complexity of medical science renders specialism more and more necessary, at all events within certain limits, while it renders the specialist more and more incapable of treating the body as a whole. Thus the patient who is fairly dealt with should be, and not infrequently is, made to visit—at the expense, naturally, of much time, trouble, and money — a succession of specialists, in order to obtain an authoritative opinion upon his condition.

This brief review may suffice to indicate that while the private practitioner himself is usually a high-minded man, acting to the best of his ability under the circumstances, the system is, from the point of view of modern science, thoroughly bad. It will be

necessary to return to this matter. It is enough to say here that a system which, like that of private practice, is based on the casual tinkering of disease, and which regards as an impertinence the far more vital question of prevention, stands a very poor chance of being accepted as the system of the future.

The third chief method at work amongst us for the distribution of medical assistance is that of the voluntary hospital. The advantages of our large modern hospitals are sufficiently obvious, and are well recognised. They are the centres of medical science and skill, organised on an extensive scale, combined with the best nursing anywhere obtainable. A hospital appointment is the ambition of every young medical man who aspires to rise in his profession. Without this he can scarcely hope to attain experience and proficiency; and every dis-

tinguished physician or surgeon is more or less intimately connected with some large hospital. While hospitals are sometimes compelled to close certain of their beds, economical considerations have a very trifling effect in limiting either the treatment or the dietary. Formerly a hospital ward was by no means the dainty home of sweetness and light, of fresh air and cleanliness, of flowers and pictures and books that we find it to-day, not merely on show occasions, but at every hour of the day or night. Nursing had not then become an art which no woman need think it beneath her to exercise. Moreover, the place itself was a focus of infection; the patient, long before he was cured, stood a good chance of being carried off by some other disease. All that has been changed. A hospital can never be the healthiest of spots to live in, but the dangers of every

hospital which can stand modern tests have been reduced to an insignificant minimum. To-day any chance ragamuffin who is admitted gratuitously into one of the large London hospitals has at his disposal a complex organisation, prepared to meet every emergency in the most immediate and effective manner, which no middle-class man in his wildest dreams could hope to bring to his suburban villa, and which can be but partially installed, with much difficulty and expense, at the palace of a millionaire or a member of the royal family.

This is one aspect of the hospital system; unfortunately it is not the only aspect. Here also, as in considering the system of private practice, we have to face grave disadvantages. The source of one of the gravest, under present conditions, lies, in the eyes of many people, in the very perfection of the

service it is able to render. While it is frequently necessary to shut out from want of accommodation many who are quite unable to pay, among those who are admitted there is always a considerable proportion who are able to pay something. This is a source of constant friction and irritation with the private practitioner. He is quite willing, even anxious, to see poor patients go to the hospital, but he feels that it is his place to provide medical assistance to the patient who is able to pay something. The intelligent patient knows where it is best for him to go. As a rule, however, he does not go, and for a reason which affects nearly all who attend the hospital. It is a charitable institution: this fact to a great extent negatives its advantages in the eyes of the Englishman. He is very ready to give charity; by no means so ready to receive it; and as soon as possible he leaves the

hospital for the services of his "medical attendant," which, however inferior they may be, at least enable him to preserve his sense of independence. And he is perfectly right; charity, as we are now taught, is one of the chief demoralising forces in our midst.

Another serious disadvantage of the hospital system lies in its voluntary and irresponsible character. We see here a great national and absolutely indispensable institution, the headquarters of medical science, giving employment in London alone to many thousand people, in the hands of private persons. Let it be granted—and probably it may be granted—that these persons do not abuse their position, and still the system produces an inevitable crop of evils. I doubt whether many people realise the suspicion with which a certain section of the more ignorant classes regards

hospitals. Indeed, even among the more intelligent classes, the critics of medicine are in England, as a distinguished French surgeon has recently said they are in France, frequently conspicuous for their "enormous incompetence." Charges of gross neglect, charges of treating patients as subjects for experiment, are freely and fiercely expressed, and occasionally they gain a prominent position in newspapers and novels. On investigation these charges usually turn out to be ridiculously devoid of foundation; and any one who is familiar with the working of our large hospitals knows that such accusations are so absurd that it is difficult to consider them seriously. But in the case of an institution supported by voluntary subscriptions, such accusations must exert a distinctly detrimental effect. Attempts have been made to establish a kind of informal taxation among working

men for the support of hospitals. All such attempts are doomed to disappointment. Taxation without representation is opposed to all our modern notions. That those who benefit by hospitals should share in supporting them is reasonable, but they certainly will not consent to this unless they have a share also in the control.

Serious charges of extravagance have been made against hospitals. They spend enormous sums, we are told, in the effort to attract money, and to work the voluntary system. These charges, at all events, require investigation. And the extraordinary variation in the expense per patient in the London hospitals is a matter which gives food for much reflection. Thus the cost per bed at one hospital is very much more than double that at another in the same neighbourhood, and the cost per out-patient varies from sixpence to twenty

shillings. When all allowance has been made, it is quite clear that there is room here for control.

Notwithstanding, however, the grave disadvantages now attaching to the hospital system, I think we shall have to recognise that it is the hospital which furnishes us the germ of a better system; it is the hospital which has carried medical science to its present position; it is the hospital which has made the most successful attempts to render this science available. This, after all, is the main thing. Let us consider the present position of the hospital.

III.

THE PRESENT POSITION OF THE HOSPITAL.

Only intended for paupers—Recent development—Number of out-patients and in-patients—Number of persons employed by hospitals—Objections to the hospitals—Remedies proposed—The dispensary—Objections to the dispensary system.

THE present position of the hospital is such that, in the words of the chief English medical organ, to be treated in one is "only one shade less demoralising than downright pauperism." It is impossible to say that this is not a correct statement of the case. It is worth while, however, to recollect the large and rapidly increasing position which this demoralising institution is taking to-day. In Birmingham alone the out-patients

of the hospitals have advanced in twenty years (from 1867 to 1887) from 67,000 to 166,000. In London the twelve large hospitals, founded in the last century or in the earlier part of the present century, now contain nearly 5,000 beds. In addition there are a large number of smaller and special hospitals; the total accommodation in the eighty-six hospitals of London is over 8,000 beds; while for infectious cases the Metropolitan Asylums Board has 3,500 beds. The total number of in-patients treated in London hospitals during a year is over 80,000.

In the out-patient department the number of patients is of course vastly greater. In six of the large London hospitals alone it appears (according to the Report of the Lords' Committe) that the number of out-patients yearly is 244,000; the yearly number of out-patients at the eleven Lon-

don hospitals possessing medical schools approaches half a million, while the number of attendances would be nearly treble this figure.

It has been calculated—though I do not bind myself to accept the calculation—that, taking the country generally, the number of persons during one year treated at 759 hospitals and dispensaries and the metropolitan fever hospitals, including also those who receive free medical relief through the Poor-Law and otherwise, exceeds 4,000,000. Dr. Rentoul, who makes this calculation,* adds: "I think if one said that one person in three was provided with free medical relief in this country a very near approach to accuracy would be made. I do not say that the medical profession is not paid something for treating some of the above, but I have no hesitation in stating that if

* *Lancet*, November 9, 1889.

all the money received were evenly divided over the above number it would not exceed 1d. per patient per annum." And the President of the General Practitioners' Alliance stated before the Lords' Hospital Committee that, in his opinion, if general hospitals were open in the evening, "it would crush out general practice altogether."

This vast system in London alone employs nearly 1,500 doctors in hospitals and nearly 2,000 nurses, to say nothing of stewards, chaplains, secretaries, clerks, collectors, dispensers, housekeepers, male and female servants, &c. If to these are added those engaged on the staffs of the Metropolitan Asylums Board and in the Poor Law infirmaries, it would be found that nearly 8,000 persons are employed throughout the year in tending the sick "paupers" of London alone.

It is clear, then, that the general hospital is a growing and flourishing institution.* There is ample evidence to show that, even under present conditions, persons of all classes gladly avail themselves of the great advantages which hospitals offer.

The two main objections brought against the hospital are firstly from the moral point of view, that the hospital is a demoralising influence since it offers charity, and secondly that embodied in the wail of the general practitioner who feels that he is being stamped out of existence.

The chief remedy so far proposed by both parties lies in the extension of cheap dispensaries. The Birmingham Committee on Hospital Reform in 1891, desiring to arrest the rapid growth of hospitals, proposed the

* In speaking of the hospital I always mean the general hospital. From the point of view of the community there is, with exception in a few cases, very little to be said in favour of the special hospital.

formation of an inquiry agency to investigate the circumstances of patients, and the chief remedy they had to offer was the extension of dispensaries. The system of dispensaries has, however, been in existence for a considerable time, and grows very slowly, usually with the aid of voluntary contributions. It has been well called "a kind of hybrid charity," and it lacks vitality, as such a system inevitably must. Nor does it satisfy any one. To the private practitioner it is a more formidable and unscrupulous opponent than the hospital. "The necessity for medical reform may be obvious to most of us," writes a private practitioner, "but it is as necessary in the dispensary as in the hospital. It will be a grave pity if, in curing hospital abuses, we increase those of the dispensary. Experience should warn us that dispensary managements are apt to attempt too much.

Becoming greedy for a financial success, they commence touting for patients, repudiate the wage-limit system, and help to turn the noblest of professions into the most miserable of trades. Under such circumstances the dispensary is, even to the public, a curse rather than a blessing. To the self-respecting general practitioner who holds to the old traditions of medical etiquette it is an unscrupulous opponent. Bound by no traditions, with the conscience of a committee, it employs agents, scatters advertisements broadcast, and invites all men to purchase physical salvation for 1d. per week." * Thus the dispensary is not satisfactory even to the private practitioner on whose behalf it is advocated. It is still less satisfactory to the public. The dispensary does not attract the highest class of medical men, and it offers few facilities for

* "Hospital Reform," *Lancet*, April 4, 1891.

the proper examination and treatment of patients. Its poverty and lack of centralisation place it immeasurably below the hospital as an instrument for coping with disease, and it is to the hospital that the dispensary send its more serious cases. Except as an extension of the out-patient department of a larger central institution, it is difficult to see how the dispensary can occupy a really satisfactory position.

IV.

THE HOSPITAL OF THE FUTU

The ancient and the modern ways of dealing with disease—The hospital reformed into an institution of health—The hospital must not be reserved for paupers—The mismanagement of charitable hospitals—The advantages of some degree of popular control.

THERE are thus two entirely different agencies working against disease on lines that are unconnected, if not even inharmonious. On the one hand there is the ancient and traditional system, which still attracts most attention, of waiting until diseases are well developed and then fighting against them as best we may; on the other hand we have the new system of going so far as possible to the causes of

disease and guarding against the first invasion of evil. The task that now lies before the community is to unite these two systems and to give to the second the first place, which justly belongs to it, and which it may at length reasonably claim to take.

The hospital, it seems clear, must be the centre of medical activity, but it must be a reformed hospital thoroughly in touch with the growing sanitary organisation of the country. The hospital as a charitable refuge for such broken-down human creatures as misery may toss into it must become a thing of the past. The hospital which we now need must be a national institution of health. It can no longer be a charitable institution or a self-centred island, apart from the control and co-operation of the community as a whole and of the sanitary organisation of the country.

The existing large hospitals would doubtless in many cases willingly associate themselves with such an organisation, the control in such cases being apportioned to the relative amount of support furnished by the community and by the charity; and the awkward and costly devices now needed to attract money to the hungry exchequers of the voluntary hospitals would become unnecessary. There is no extravagance or mismanagement in the hospitals or dispensaries in India, it is said, because they are under Government administration.* In most parts of the country there are institutions which could, by local arrangement, be brought up to the standards of size,

* A word should be said here for the Hospitals' Association, which has done so much to enlighten and reform the details of hospital administration and to create an intelligent interest in the matter; thus helping to tide over the present period of transition, and to prepare the way for a sounder system.

completeness, and efficiency required. In many cases the local Poor Law Infirmaries —some of which are already among the best hospitals in the kingdom—would constitute the natural nucleus. Special hospitals—the stumbling-block in the way of all hospital reformers—would be left either to die out or to amalgamate with the national hospitals. In the end every medical man in the country would be attached to a hospital, and every person would be living within the district of a great institution of health. There is no reason why such a state of things should be introduced precipitately; it must necessarily, indeed, be introduced slowly, and most people will be of opinion that while certain general methods and standards of efficiency must be determined, the establishment of such national hospitals should be left to local communities. Private

practice need not be prohibited; with the removal of the disadvantages at present attaching to hospitals, few people would hesitate to avail themselves of their advantages; the large number of medical men attached to the hospital would enable every one to be attended to expeditiously; the multiplication of hospitals would disperse the students, who are at present an annoyance to sensitive persons, and the element of popular control will remove all minor abuses. It is only within the walls of a hospital that specialism, the inevitable nature of which is now generally recognised, can be carried out without harm or inconvenience. A patient can be passed in a few minutes from the physician to the surgeon, the ophthalmist, or the gynæcologist; while at any time a helpful consultation can be held. At the same time persons who could afford it would be free

to obtain the services of a medical man privately, and, under certain conditions, of the hospital organisation at his back.

But this is not possible until the present anomalous position of the hospital comes to an end. The hospital has now reached a position in which it is able to offer the very best advice, the best nursing, the most complete means of combating disease, the most favourable conditions for obtaining restoration to health. Not even the most able private practitioner can offer such advantages to his wealthiest patient. The hospital is thus a gigantic enemy to the private practitioner, and the chief weapon that he possesses against it—a weapon which, under the circumstances, he is justified in using—lies in its *charity*. What was once its glory he stigmatises as its shame, and he would establish a severe inquisition to weed out from the

hospitals all those persons who could afford to pay a few pence for his own advice and medicine. As a medical man recently declared before the House of Lords' Committee on Hospitals, he "regarded it as unfortunate that people should accept hospital relief without feeling that they were paupers." There can be no doubt that this expresses the natural feeling of every medical man who finds himself in competition with a hospital. His interests demand that the four million persons who receive free medical relief in this country should all be branded as "paupers." The hospital is incomparably the most satisfactory method of giving relief to every member of the community, but at present every general practitioner is bound to wish that no person should seek the best form of medical relief open to him unless in such a condition of hopeless dejection that he regards himself as a pauper.

At the same time, the introduction of the element of popular control will remove what are at present the only great blots on our hospital system. If we put aside the charitable character of the assistance offered by the voluntary hospitals, the great objection brought forward against them is their irregularity, their occasional extravagance and mismanagement, and the vast sums which they sometimes expend in seeking to attract subscriptions. It is certainly not reasonable that 25 to 50 per cent. should be spent, as it is said to be by some hospitals, in raising their annual income; nor that, of two general hospitals in the same district, and treating the same class of cases, the cost per bed in one should be more than double that of the other. This must necessarily cease as soon as the organisation of hospitals begins, and as soon as there is no need for such institutions to compete frantically

in appeals for public support. The element of popular control will also do much good by the effect it will have in removing the suspicion which occasionally haunts more ignorant persons regarding them. It is rare that the stories frequently circulated, and sometimes believed by credulous people, as to the cruelties and inhumanities practised in hospitals or in turning sufferers away from them will bear examination; but it would be a great advantage if they could be at once investigated and if the management of the hospital was sufficiently in touch with popular feeling to make charges of this kind difficult to make when ill-founded and easy to deal with when well-founded. There are some minor, but by no means unimportant, respects in which the patients of hospitals, and especially the out-patients, do suffer some hardship, which would become at once impossible if hospitals were placed

under popular control. At most large hospitals out-patients are systematically kept for many weary hours in the middle of the day awaiting their turns. Not only is this very trying to many sick persons, but it is extremely inconvenient to the class who seek help at hospitals; and there are also in the crowded waiting-rooms additional risks of infection. This state of things is to no one's advantage; a very little judicious organisation would render it unnecessary, and when an element of popular control is brought into hospital management it will very speedily come to an end.

V.

THE POOR LAW INFIRMARIES.

The infirmaries are coming into line with the general hospitals — Comparisons with regard to number of patients and to expense—Reforms necessary in the infirmaries.

THE twenty-four Poor Law Infirmaries of London cannot strictly be classed with the general hospitals. But the Poor Law Infirmaries of Great Britain, notwithstanding the somewhat depressing name under which they suffer, are now (with notable exceptions) splendid and well-organised institutions. When they are a little further developed and better equipped—when the nursing system has received the attention

it needs in many cases; when the medical staff has been considerably increased, and when the infirmaries are thrown open to students, and receive that healthy stimulation which always comes to large teaching centres—these institutions will in every respect deserve to be called the Hospitals of the State. It is now becoming clear that progress in health reform involves to a very considerable extent that the infirmaries and the general hospitals should fall into line. The infirmaries of London contain nearly 14,000 beds (of which 12,000 are in continuous employment), and their annual cost is nearly £500,000—a very much smaller cost per bed, it may be noted in passing, than in any of the voluntary hospitals supported by charity; while the cost per bed in the general hospitals ranges from £80 to £150, and beyond this figure in some of the special hospitals, in the

infirmaries it usually ranges only from £30 to £50; it may be reasonably held that something more might be spent on the infirmaries with advantage, but it is difficult to avoid seeing that considerable wastefulness and mismanagement must be responsible for the large sums spent by the irresponsible directors of some of the general hospitals. Some of the London infirmaries equal in size our largest hospitals. Thus St. George's Infirmary contains 780 beds, and St. Saviour's 786 beds, while the London, the largest of the general hospitals, only contains 780 beds, and St. Bartholomew's 650. It has been estimated that in 1890, 30,000 persons were admitted into the metropolitan infirmaries, and that 129,340 orders were given to Poor Law dispensary officers for attendance on patients outside. There can be no doubt that practically, as *The Lancet* lately remarked,

infirmaries "are becoming more and more part of our hospital system," and rightly so. But while in some respects the hospitals must be approximated to the infirmaries, in other respects the hospitals still lead the way Why, it is beginning to be asked, should the patient in the London Hospital, afflicted with a grave disease, have the benefit, if necessary, of a consultation of the whole of the staff of specialists, while the patient in the neighbouring Whitechapel Infirmary, with perhaps an equally grave disease, can only have the advice of a single medical man? At the Paddington Infirmary there are only three resident medical men, and no consulting physicians or surgeons. At the neighbouring St. Mary's Hospital, almost of the same size, the medical staff consists of nine residents and nine visitors. It was suggested to the Lords' Hospital Committee

by Dr. Bridges, the Poor Law Inspector of the Metropolitan District, that the medical staff of the general hospitals should give part of their time to the infirmaries; such an arrangement, however, is not practicable, save as a temporary make-shift. The medical staff of the general hospitals already have their hands full. What is needed is a great increase in the medical staff of the infirmaries.

A similar criticism applies to the nursing at infirmaries. It has been stated that even of the matrons of the London infirmaries, not twelve out of twenty have been hospital-trained. At some of the infirmaries, also, there is a system of pauper-help which ought to be abolished at once. Now that attention has been called to these abuses and irregularities by the Lords' Hospital Committee, it may be hoped that they will speedily be remedied.

Hospital reform in the future will largely develop around the infirmaries. It is not certain that the voluntary hospitals will be willing to fall into line with the new movement; they have done excellent service in the past; it is possible that in the future they may be unable to adapt themselves to new conditions, and so fall into the background. But the State Hospitals—as we ought to call them—are established on a sure though simple basis, and have largely overcome the official and popular prejudice which maimed and limited their proportions at the outset. Already the great principle has been recognised that it is not necessary to become a pauper to be admitted to the infirmary. When those abuses to which I have referred have been remedied, the infirmaries will add to their existing advantages the chief advantages now monopolised by the general hospitals, and

with them, or even without them, will form some approximation to the hospitals of the future.

VI.

THE REPORT OF THE HOSPITALS' COMMITTEE (1892).

Scope of the inquiry—The Committee's opinion of general hospitals—Of special hospitals—The proposed Central Hospitals' Board—The Committee's opinion of infirmaries—The prospect of municipal hospitals.

DURING 1890 and 1891 a Select Committee of the House of Lords took evidence concerning the hospitals, infirmaries, and allied institutions in London. Besides various authorities on charitable matters, such as the secretaries of the Charity Organisation Society and the Chief Charity Commissioner, they called before them representative members of all grades and classes of medical

men — general practitioners, specialists, members of the consulting staff of various general and special hospitals, superintendents of Poor Law infirmaries, &c. The evidence taken occupies two large volumes, and the final Report of the Committee, issued in June, 1892, is a very fair statement of the widely different and often opposed opinions held on these subjects. The recommendations of the Committee, though their moderation may almost be described as of an extreme type, are entirely on the right lines, and it is to be hoped that it will not be long before they are embodied in practice.

In dealing with the medical administration of the large general hospitals—that is to say, with the care bestowed on the patients by doctors and nurses—the Committee, after full examination, entirely justified the hospitals. It was not found

that there were any abuses calling for reform. The alleged careless and hurried manner of dealing with out-patients does not exist.* At Guy's, for instance, on an exceptionally busy day some 480 cases are treated, but this only means twenty new cases in each department. At the London, which receives by far the largest number of out-patients, it was shown that new cases on the medical side are seen at the rate of thirteen per hour; while Sir Andrew Clark, speaking of his own experience at this hospital, said that each new case would have ten minutes or more. Similar evidence was given concerning other large

* If the Committee could have compared the treatment of patients in the out-patient departments of the large general hospitals with the treatment of patients in their homes by the average private practitioner, it would have been shown that the care and thoroughness in examination and treatment bestowed on patients at the hospital is very much greater than that bestowed on them in their homes.

hospitals. In regard to the quality of the food supplied to in-patients, a great number of questions were asked; but, on the whole, little evidence was elicited of an unfavourable character. One witness, indeed, considered that the hospitals were administered, in matters concerning the comfort of the patients, in an unnecessarily luxurious style. The defects which were mentioned were not of a very serious or deeply-rooted character; and strong evidence in confirmation of the general good administration of the hospitals in all that concerns the comfort of their patients was given by the Chairman of the Saturday Fund, who testified that the great majority of complaints which had been brought to his notice by ex-patients had proved, on investigation, to be unfounded. With the present high standard of medical and nursing efficiency, the most careful scrutiny can scarcely lead

to any other result. All that can be said is, that in the absence of any element of popular control there is an excuse for such complaints.

As regards the business administration of the hospitals, however, the Report of the Committee is by no means so favourable. In the case of the three great endowed hospitals, for instance (St. Bartholomew's, St. Thomas's, and Guy's), the Committee consider that the administration does not compare favourably with that which exists at the other general hospitals, too much power and responsibility being placed in the hands of one individual—the treasurer. It is to this cause that the committee sets down the recent outbreak of diphtheria among the nurses at St. Bartholomew's; the drainage system was altogether defective, and had not been properly surveyed; this neglect, in the opinion of the Committee,

could not have occurred had there been in existence at the hospital a proper system of sub-committees meeting at frequent intervals. The system which largely exists at present of allowing subscribers to give "letters" entitling to treatment, comes in for considerable criticism. It is admitted that this system supplies some hospitals with "a substantial part of their funds," but it is shown at the same time that the "letters" were frequently not given to the most deserving persons; many witnesses were in favour of the entire abolition of "letters," on the ground that "contributions given by way of charity ought not to entitle the giver to any services in return." This, it need scarcely be said, opens up important ground which the Committee were too cautious to enter upon; the subscriber who thinks that he is entitled to a return for his payment is certainly gaining ground

among all classes of subscribers; the rich subscriber considers himself entitled to be made a governor and to have the privilege of giving "letters"; the poor subscriber considers himself entitled to treatment. Why should the poor subscriber be severely reprimanded, as he invariably is, for expecting even the smallest return for his subscription, when the rich subscriber is rewarded with the privileges of governorship?

It is the special hospitals, and more especially a certain class of them, that are most severely treated at the hands of the Committee. They are careful to point out that with the present unsystematic and irregular method of showing the accounts it is not possible to attach any exact value to figures showing the relative cost of beds in the various hospitals; but they cannot refrain from showing the very high figure at which it is placed at some of these small

hospitals (in one case reaching £285, while at an infirmary it is under £36); "it seems evident that they are very much more expensive institutions than the larger hospitals." The establishment of small special hospitals by medical men for their own advancement is a course of action, as the Committee reasonably conclude, which "leads to the establishment of hospitals where they are not wanted, to waste of money incident to the creation of badly managed and small institutions, and to the deception of the public by inducing them to subscribe to undertakings alleged to be of public benefit, but which are in reality mere schemes for private emolument, and also are useless for teaching purposes." This class of small special hospitals "the Committee do not consider are of any real benefit either to the sick or to science." Virchow's words are quoted, "that no speciality can flourish

which separates itself entirely from the common source of science; that no speciality can develop fruitfully and beneficially if it does not ever and anon draw from the common fountain, if it does not take the other specialities into account, and if all the specialities do not mutually assist one another." The Committee go on to say that there would be some difficulty in transferring the special hospitals to the special departments of the general hospitals, as urged by many witnesses. "The only way by which the desired object could be attained would seem to be the affiliation (if that were possible) of special to general hospitals." A grave difficulty here comes in owing to the extreme disinclination of the hospitals and similar institutions to combine or to work harmoniously. Competition runs wild, and the hand of each is against all the others. This is very well described by the

Committee. "Many witnesses drew attention to the want of co-operation among the hospitals themselves, and between them and the dispensaries, the Poor Law infirmaries, and the private practitioners, and various remedies were suggested. So far from there being at the present time any general system of combination, or any definite division of work among the various institutions, they are, on the contrary, for the most part competing with one another at every point for public support and to a great extent for patients. This condition of things is shown to be wasteful as regards the subscriptions of the public, and prejudicial, not only to the public who subscribe their money, and to the sick for whom these institutions exist, but also to the interests of medical science and education, since a wide field for observation and practice is closed to the clinical teacher and his pupils, while the

hospitals, for the sake of their schools, lest the requisite material should fail, are driven to take in and treat a crowd of patients unsuitable for hospital treatment, and the general practitioner complains that he is being ruined." And elsewhere "the Committee regret to remark that there does not seem to be any genuine wish for co-operation between the various kinds of medical institutions. They are of opinion that much more might be done than at present by the hearty co-operation between the special hospitals and general hospitals, between dispensaries of all kinds and general hospitals, and between general practitioners and general hospitals." The question the public now have to consider is: How can this condition of anarchy be most speedily and effectually brought to an end?

This brings us to the Committee's most important recommendation—the establish-

ment of a Central Hospitals' Board. "The great weight of the evidence from within the hospitals, as well as from outside, was favourable to the idea of a central board." There was, however, considerable divergence of opinion as to the constitution of the Board. While a few witnesses were in favour of some form of Government control, or at least inspection, a larger number were decidedly against Government control, and in favour of maintaining what they consider the "healthy rivalry" at present existing. The Committee do not pronounce in favour of any of the proposals brought before them. They consider that the Board should represent the various interests affected, and that its duties should be such as the following:—(1) It should receive annual reports, statements of accounts, and balance sheets, from all hospitals and dispensaries, together with a return of the total number of in-patients,

out-patients, and casualty patients; (2) It should require that all accounts be audited by competent chartered accountants; (3) It should arrange that all medical charities should be visited and reported on periodically; (4) It should report from time to time, as occasion required, all proposals for new hospitals. The most obvious defect in the constitution of the Hospitals' Board, as proposed by the Committee, is the omission of the infirmaries and other Poor Law institutions, which, as Sir E. Hay Currie rightly claims, should have an important share in any scheme of the kind. The private practitioner, also, is entirely ignored. This is not desirable, whether he is left alone to fight against an organised hospital system, or (as we may hope will ultimately be the case) his co-operation is gained in the organised fight against disease, and all other petty rivalries lost together with the

old-world title of "private practitioner." To be thoroughly effective, also, the Hospitals' Board must be in close touch with the County Council, if, indeed, it does not become eventually a department of the Council. Any consummation of this character lies ahead, however; at present the large hospitals (although some of the wealthiest, like St. Thomas's and Guy's, are not sufficiently wealthy to utilise all their beds) are sufficiently rich to prefer a state of "healthy rivalry," as it is euphemistically termed, to any organised subordination to the interests of the community generally. The Committee's scheme seems, however, to offer a minimum of difficulties, and is so moderate that no reasonable objection can be made by any one to its speedy realisation, while at the same time it would serve to pave the way for more extensive action in the future.

It is worthy of note that the Committee fully recognise the significance of the development of the Poor Law infirmaries. "It should always be borne in mind," they remark at the conclusion of their investigations, "that the establishment of Poor Law infirmaries and rate-supported asylums, under the Metropolitan Poor Law Act, 1867, has in great measure altered the relations between the poor and the hospitals, and everything associated with medical charity." This is a very significant admission. It is also interesting to find the Committee elsewhere recognising that "the poorest class which is treated in these Poor Law institutions is, in fact, better provided for in this respect than the poor class just above the pauper class, for whom, except in a few charitable institutions, such as the Cancer Hospital, and the Hospital for Incurables at Putney, no hospital accom-

modation is provided when they are suffering from chronic or incurable complaints. The poor, it seems, do not generally regard the infirmary as they regard the workhouse; they look upon it rather as a state-supported hospital; they come to the infirmary, are cared for, cured, and go out again, without feeling that they are tainted with pauperism." While recognising that the evidence on the whole shows the "high standard of efficiency attained by the best of the new infirmaries, both in their structure and in their general arrangement and management," it is pointed out that the medical staff should be increased, that the nurses are often insufficiently trained, and that infirmary practice, as well in the interests of medical education as of the patients, should be thrown open to students. There can be little question as to the desirability of these reforms, which have already been referred to in the foregoing pages.

On the whole, we cannot fail to recognise that the Committee's Report points out, although with great moderation, the safest and most reasonable steps which medical organisation must begin to take in the near future. When the Hospitals' Board is once established on a sound and popular basis, its functions cannot fail eventually to develop much beyond the scope laid out for it by the Committee. At the least the Committee have deserved well by the valuable evidence they have collected, and by showing that the general tendency, both of popular and of scientific opinion, is in the direction of the greater organisation of medicine. As the Committee point out, working men are beginning to contribute to the hospitals, and at the same time are beginning to believe that their contributions "entitle them to use the hospitals as a right." Recently, also, another distinct

step has been taken in the organisation of medical service; under the Public Health (London) Act, 1891, *every inhabitant* suffering from any dangerous infectious disease is entitled to free treatment at one of the hospitals of the Metropolitan Asylums Board. It is not surprising that the Committee should find that the stigma attaching to free medical relief is disappearing, and that they should recognise, as they do at the conclusion of their Report—though they seem to hold out this prospect rather as a threat than a hope—that "a time may come when it will be necessary to have recourse either to Government aid or municipal subvention."

VII.

TYPHOID FEVER.

Its vast mortality and world-wide extension—Yet it is easily preventable—The Tees Valley epidemic—The experience of France—The prime necessity of pure water.

THE meaning of the nationalisation of health is very well illustrated by the problem of the prevention of typhoid (or enteric) fever. Typhoid fever is not only a disease which offers loop-holes for death to enter at very many points; it is a prolonged, insidious and peculiarly distressing fever; many die; those who recover, having once gone through it in a well-marked form, do not easily forget the experience, and may pass the rest of their lives with permanently depressed vitality.

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It is a disease of world-wide extension; in England alone it has claimed two million victims in the course of a century; and that means that at least ten millions have in this country, during the same period, gone through the disease in a well-marked form, to serve as foci of misery and suffering, while a vastly greater number have had milder attacks.* It is a disease of the country as well as of the town; of the New World as much as of the Old; it is common among the poor, and by no means spares the palaces of the rich; it flourishes at Melbourne as vigorously as at Florence. It attacks the young by preference; in France it kills 23,000 persons in the course of a year, mostly between the ages of

* In England and Wales in 1869 the death-rate from typhoid fever was 390 per million living. Since then it has gradually fallen, but in 1890 it was still 179 per million, and since 1887 it has shown a slight tendency to increase. *British Medical Journal*, Sept. 10, 1892.

fifteen and twenty-five. It causes less consternation than the occasional invasions of cholera—a disease which is propagated in precisely the same way—but it is ever and everywhere with us, and is, as Brouardel truly says, far more terrible and dangerous to man than cholera.

Yet no disease is simpler in its origin, and more easy to prevent, than typhoid fever. It is caused by nothing more, or nothing less, than the use of drinking water which has been contaminated by the excrement of persons who are themselves suffering from the disease. It cannot be too well known that 99 per cent. of the cases of typhoid are probably due to this disgusting practice, a practice which, in any fairly well-regulated community, ought to be rendered impossible for reasons quite other than the prevention of disease. It is not so, however, and from time to time great

epidemics occur to emphasise the filthy nature of the source of many of our water supplies, but by no means invariably to induce us to adopt more cleanly habits. It is only necessary to refer to one example which has been recently investigated—the Tees Valley epidemic. The Tees receives the drainage of a town of six thousand inhabitants, of fifteen to twenty villages, as well as grave-yards and farmsteads. Now, it is true, although scarcely credible, that this filth-polluted water is given to drink to half a million persons who live in Darlington, Middlesbrough and Stockton. The inhabitants of these towns are, therefore, liable to drink any excremental poison that may be poured into the river above them. In such river water as this the typhoid bacillus is certain to be present, and when there is an exceptionally heavy rainfall a special flush of filth is swept into the in-

takes of the water companies which supply these three large towns. At the end of August, 1890, occurred one of the heaviest rainfalls ever known in the Tees Valley, and within a few days an epidemic of typhoid broke out at Darlington, Middlesbrough, and Stockton. In such localities as received no other water supply than from the Tees, the rate of attack varied from 11 to 13 households per 1,000. If the typhoid bacilli mingled uniformly with water, in the same way as a chemical substance in solution, it need scarcely be said that the invasion of the disease would have been still more marked.*

* They manage these things better even in "Darkest Africa." The dwellers on the banks of the Congo are more cleanly than those on the banks of the Tees. Mr. Parke, the surgeon who accompanied Stanley, writes:—"The natives, even here, have very pronounced ideas on the subject of sanitation. They always make their beds at some height from the ground, and have special pits for collection of ash and refuse; some of them, however, situated un-

Wherever the water supply has been rendered purer, there typhoid fever has receded. At Bristol and at Croydon, at Edinburgh and at Glasgow, improved sanitary conditions been led to a reduction of the mortality to one-half, one-third, even one-fifth. In France, again, as Dr. Brouardel has lately shown, the same results have everywhere been produced. When the inhabitants of Vienne drank surface water, *i.e.*, water that is constantly polluted, the typhoid mortality was 200 per 100,000; when a good water supply was obtained it fell to 10 per 100,000. At Angoulême the reduction in the number of typhoid cases on the introduction of a supply of pure water was represented by the proportion of

desirably close to the huts. In some villages, indeed, they have rather well-made latrines—even closets—to sit on; and upon the whole they are much cleaner and tidier than the inhabitants of our remote villages at home." *Experiences in Equatorial Africa*, p. 77.

0·063 to 18. At Amiens, among the military population, the typhoid mortality fell from 111 to 7 per 1,000 when pure water was secured by artesian wells. When the inhabitants of Rennes drank the water of contaminated wells typhoid fever was constantly present. When pure water was introduced the deaths from typhoid fell from 43 to 2 per 1,000. Investigations carried out at Besançon, Tours, Carcassonne, Bordeaux, and Paris, give corroborating results. It is well known that in Paris, whenever the water of the Seine is turned on for drinking purposes—as is sometimes necessary in summer in some districts of the city—there is in those districts an outbreak of typhoid fever. The Thames, though in a less degree, is also a source of typhoid fever.*

* The London Water Companies demonstrated once for all what can be done with water containing choleraic dis-

One of the very first essentials for the healthy life of any community is an abundant supply of pure water. The assertion sounds like a truism, but it is, unfortunately, a truism which still needs a great deal of repetition. It is difficult to say what requirement of life comes before pure water; the most practically and humanly

charges. When their intakes were in the neighbourhood of London Bridge the companies succeeded in the two cholera epidemics of 1849 and 1854 in destroying 25,000 lives. It was a valuable but costly experiment. The intakes are higher up now, but still higher up sewage is discharged into the river, and the Rivers Pollution Prevention Act is more or less a dead letter. (See evidence of experts before the Royal Commission on Metropolitan Water Supply, *Brit. Med. Journal*, Sept. 17 and 24, 1892). Water highly polluted with excrement may be drunk with safety so long as it does not contain the germs of disease. But these may at any moment enter. The recent cholera epidemic at Hamburg is said to have been initiated through Russian emigrants camping on the river bank above the intake. For a popular summary of the present state of knowledge regarding the prevalence and cause of typhoid, the reader may be referred to the Hon. Rollo Russell's lately published "Epidemics, Plagues, and Fevers: their Causes and Prevention," 1892, pp. 293–337.

civilised of the great nations of old understood this, although their knowledge was empirical; the Romans and the Moors understood it. A race that has not yet understood this elementary truth has no true claim to be called civilised. One wonders what our descendants will think of nations which stuffed Regent Street and the Palais Royal with costly and idle luxuries, and drank contentedly the diluted and poisonous excrement of their diseased fellow creatures.

VIII.

BLINDNESS AND SHORT-SIGHT.

Comparative prevalence of blindness in European countries —Blindness largely preventable—Its chief cause—Defective eye-sight in Germany—In America—In France —In Sweden—In England—Its causes and prevention—School hygiene.

BLINDNESS is one of the most terrible of misfortunes to the young and healthy. In England it is slowly declining, but this country by no means shows very favourably in comparison with many other European countries. According to Dr. Armitage,* blindness is rarest in Holland, after which come in order of increasing frequency Denmark, Sweden, Belgium, France, Scotland,

* "Education and Employment of the Blind," London, 1886.

England and Wales, Germany, Italy, Spain, Ireland, Hungary, Norway and Finland.

It cannot be too widely known that a very large proportion of the existing cases of blindness might have been easily prevented by the adoption of the very simplest antiseptic precautions at birth. Magnus, Bremer, and Steffan estimate the number of preventable cases as about 40 per cent. Cohn's important investigations have shown that out of 1,000 cases of blindness 329 might certainly have been prevented, 433 were possibly preventable, only 238—less than a fourth—were unavoidable. There are 23,000 blind persons in England and Wales. If, therefore, this estimate is fairly correct (it cannot be far wrong), about 15,000 of them have been unnecessarily deprived of sight. It is needless to point out all that this fact involves.

The precaution to be observed for the

prevention of blindness through inflammation of the eyes at birth is of the simplest and most routine character. In the year 1884 it was ascertained by a committee of the Ophthalmological Society of Great Britain that in the institutions for the blind in London, York, Belfast, and Hull, 30 to 40 per cent. of the inmates owed their blindness to purulent ophthalmia in infancy, and that at least 7,000 persons in the United Kingdom had lost their sight from this cause. Professor Magnus of Breslau finds that no less than 71·99 per cent. of all who become blind during the first year of life are rendered blind by purulent ophthalmia, and even of those who become blind before the twentieth year of life it constitutes as much as 23·50 per cent. Looking at the subject in another way, he shows that of every 10,000 children under five years of age 4·28 are blinded by purulent ophthalmia.

Owing to the ignorance of the serious nature of the disease, or of the possibility of arresting its progress by judicious treatment, in this country the proportion of the blind from this cause in the Normal College of Music is no less than 32·14 per cent.; whilst in the blind asylums in Switzerland the proportion is 26 per cent.; in the blind asylums of Austria, Hungary, and Italy about 20 per cent.; whilst in Spain and Belgium it falls to about 11 or 12 per cent.* Even the washing of the child's eyes at birth with plain water without an antiseptic (though it is desirable to use an antiseptic solution) has been found efficient to prevent this disease. Yet at present in works on midwifery, or in books intended for the instruction of midwives or nurses, it is very rare to find any allusion to this important disease or its prevention. To ensure ade-

* *Lancet*, July 20, 1889.

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quate attention to this simple but important precaution, it is important that all those who are entrusted with the care of child-birth should be properly instructed, and also that they should be kept alive to their responsibilities, and to the most effective means of fulfilling them, by contact with the life and enthusiasm of a large teaching centre.

The question of the rapid increase of defective eye-sight in connection with our modern civilisation, and especially with our modern methods of education, is now recognised by those who have an acquaintance with the matter to be one of considerable gravity.

In this country the question has scarcely at present attracted attention, and no large and systematic investigations have been made into the increase and prevalence of short-sight, although observers, like Mr.

Brudenell Carter and Dr. Francis Warner, have sought to call attention to the matter. The question is, however, an international one.

In Germany, where modern methods of education are carried on with greater energy, eye-sight has suffered more than in any other country. Professor Pflüger stated some time ago that of 45,000 children examined in Germany, more than one-half were suffering from defective eye-sight, while in some schools the proportion of the short-sighted was 70 or 80 per cent., and at the Heidelberg "Gymnasien" it rosé to 100 per cent. The medical inspection of 24 Prussian "Gymnasien" and "Realschulen" has shown that out of over 9,000 scholars 37 per cent. were suffering from short-sight, and the investigations revealed a gradual progress in defectiveness from the lower classes to the higher classes; thus while in

the sixth and lowest class the average was 22 per cent., in the fifth it was 27 per cent., in the fourth 36 per cent., in the third 46 per cent., in the second 55 per cent., and in the first class it was 58 per cent. At the Paris International Congress of Hygiene in 1889 Dr. Motais of Angers gave the result of investigation of 6,700 children. He found that short-sight was much less frequently found in France than in Germany, but that it was growing to an alarming extent. In Sweden, among 11,000 boys, Professor Axel Key shows that short-sightedness ranges from 6 per cent. at the age of 11, to 37·3 per cent. at the age of 19, a sudden rise occurring about the age of 15. Among about 3,000 Swedish girls examined, it was found that short-sightedness ranged from 21·4 per cent. at the age of 10, to 50 per cent. and over at the age of 20.*

* See a valuable paper read by Professor Axel Key at the

In America the same result has been found. The short-sighted in the Philadelphia schools are at 8 years of age but 5 per cent.; among scholars of 17 years the proportion has risen to 20 per cent. Out of 2,400 children examined no fewer than 1,000 were suffering more or less from eye troubles.* Tests made on the strength of sight among the school children at Worcester, Mass., U.S.A., showed that out of 793 boys 308 (or 38 per cent.), and out of 602 girls 313 (or 52 per cent.), were short-sighted.†

In England, in 1884, Mr. Frost found in a large London Board School that rather more than one fourth of the children had

Berlin International Medical Congress in 1890 on "Die Pubertätsentwickelung und das Verhältniss derselben zu den Krankheitserscheinungen der Schuljugend." Sonderabdruck, Hirschwald, Berlin.

* See a valuable paper on "Defective Vision in School Children," discussing this danger and its prevention, in the American *Educational Review*, for April, 1892.

† *American Journal of Psychology*, Aug. 1892.

subnormal vision. Dr. Warner, in his Milroy Lectures on "An Inquiry as to the Physical and Mental Condition of School Children" (carried out on 50,000 children), has shown the frequency of eye-defect, and the great need of school children for ophthalmic attention. And wherever careful investigation has been made similar results are usually brought out.*

There is a strange degree of ignorance and indifference among parents, even among people who claim to be fairly well educated, as to what defective sight is, and what it

* It is to be regretted that the observations so far made in England are of an imperfect and fragmentary character, and not altogether harmonious. In the Report of the Anthropometric Committee of the British Association for 1884 (p. 281) is presented a series of observations on the eye-sight of boys at Marlborough College, made by the Rev. T. A. Preston. It by no means shows (except in the tendency to astigmatism to increase with age) any marked defect of sight. This seems to indicate that (as the researches of others tend to show) defective eyesight is distinctly connected with defective conditions generally and underfeeding.

involves. To have one's vision circumscribed within a circle of a few yards or feet or even inches is to be shut out from a large part of the world and all that is to be learnt from the observation of it; it means blindness to the most beautiful and expressive thing in the world—the human face. The short-sighted person is a source of perpetual discomfort to himself and to others, and however great his intelligence, his mind must always work in a partial and biassed manner and under difficulties. One can understand the repugnance which Goethe, with his large and sane way of looking at things, felt for the people who peer at the world through spectacles.

The causes of defective eye-sight, as well as the methods of combating them, seem at present to be rather complex. Motais considers heredity a highly important factor in the evolution of myopia or short-sightedness.

In a recent contribution, however, to the subject, brought forward at the Paris Academy of Medicine, he maintains that myopia is a product of civilisation, and he finds unexpected confirmation of this view in the condition of the eyes of wild beasts, such as tigers, lions, &c. Having examined their eyes by means of the ophthalmoscope he discovered that animals captured after the age of six or eight months are, and remain, normal; but that those captured earlier, and still more those born in captivity, are short-sighted, the myopia being evidently induced by artificial conditions of life.

Javal, in another recent communication to the Paris Academy of Medicine, believes that by the exercise of proper precautions children, even when predisposed by heredity, can be prevented from becoming myopic. It is probable that some slight modifications of our educational methods will be involved.

There is general agreement that the arrangement of our schoolrooms is often in a high degree faulty. Our own Education Department ordains "that the windows should be so placed that a full light should fall upon the faces both of the teachers and the children." This rule has often been severely condemned; it is directly opposed to the most elementary principles of common-sense hygiene in such matters. Children instinctively turn away or lower their heads when their eyes are exposed to the full glare of the light. We shall probably find that it is necessary to avoid prolonged strain of the eyes in children, and to educate them in seeing objects at a distance, carefully avoiding small print.

But the first and essential point is the methodical examination of the eyes as a matter of routine, and at stated intervals. When this is systematically done—and it

is a very simple thing to do—we shall be in a better position to understand the causes which are producing this unfortunate development of short-sight, and we shall be better able to remedy them. It is impossible, and scarcely desirable, that the parents should be responsible for this examination being duly made. When, however, every district has a recognised hygienic and medical centre, the effective performance of this simple but important investigation, involving also advice or treatment when necessary, will become a fairly easy matter.*

* See "Die Schulkurzsichtigkeit und ihre Bekämpfung," von Dr. H. Schmidt-Rimpler, Leipzig, 1890. The suggestions here given are the result of investigations made at the request of the Prussian Minister of Education. Dr. Ferdinand's *School Teacher's Ophthalmic Guide* (Aberdeen: Wyllie and Son, 1892) may be recommended. Its "sole object is to check the increase of defective vision among school children," and it contains many simple and valuable suggestions. See also Brudenell Carter's *Eye-Sight: Good and Bad.*

IX.

MATERNITY AND ITS PERILS.

Puerperal fever — Sketch of the origin and development of antiseptic midwifery—Progress made in the large maternity hospitals of Vienna, Dresden, Paris, New York, Berlin, London, Dublin, Copenhagen, St. Petersburg—Contrast among population generally—The enormous preventable mortality among young mothers—Manslaughter by general practitioners and midwives—The registration of midwives.

THE lives of young mothers are among the most valuable to the community. It is in saving such lives that the new era of prevention has achieved one of its very greatest triumphs. The triumph, moreover, is one which we have so far been guilty of leaving terribly incomplete, and it is worth while, therefore, to deal with it in some detail.

No scheme for the organisation of medicine worth any consideration can fail to take this matter into account.

The mortality among women in childbirth is mostly due to the various inflammatory causes vaguely called puerperal fever. White, a Manchester surgeon, is supposed to have been the first to assert the infectious nature of puerperal fever, so long ago as 1773, and Gordon, an Aberdeen doctor, subsequently brought forward confirmatory facts. Oliver Wendell Holmes, in 1843, wrote an eloquent essay on its contagiousness and on the folly of those who disregarded the evidence. That folly was well illustrated a few years later, when no fewer than forty-five cases of puerperal fever occurred in the practice of one medical man, while no patients of the other doctors in the place were attacked. An important step in advance was made in 1847, when

Semmelweiss, amid much ridicule, declared that puerperal fever is due to the absorption of decomposing animal matter, and that the poison is usually conveyed to the woman by the doctor. By means chiefly of simple disinfection of the hands he succeeded in reducing the mortality in the lying-in wards of the General Hospital in Vienna from about 12 per cent. to 1 or 2 per cent. within a year. That was an experience the importance of which was, as Haller declared, beyond calculation.

It is now generally agreed that puerperal fever is infectious, always depending on the introduction of microscopic organisms from without. Wherever progress has been made in the battle against this terrible disease it has been by an enlightened attention to cleanliness.

Both in the ordinary and in the surgical sense of the word complete antisepsis is

scarcely practicable. Adequate antisepsis has, however, been found to result from the adoption of a variety of precautions which have been the gradual outcome of experience.

It appears that to Copenhagen belongs the title of "the cradle of antiseptic midwifery." * Previous to 1865 the mortality from puerperal fever at the Maternity Hospital of that city had been as high as 1 in 24 women delivered, but in that year Professor Stadtfeldt resolved to apply Lister's antiseptic principles to midwifery, and his success was immediate. Since then the progress in antiseptic obstetrics has become more general.

At Vienna, in the largest lying-in hospital in the world, the mortality has fallen

* This is the opinion of Dr. W. O. Priestley, who has investigated the matter. See paper "On the Improved Hygienic Condition of Maternity Hospitals," read at the London Congress of Hygiene.

in twenty years—through the introduction, first, of hygienic reforms, and then of antisepsis—from 28 per thousand to 6 per thousand. At the Dresden hospital puerperal fever has been so nearly banished that only one fatal case arises among nearly 1,500 cases. At the Maternité at Paris the total death-rate has fallen from 93 per thousand, first, owing to sanitary improvements, to 23 per thousand, and then, after the introduction of antiseptics, to 11 per thousand. For the year 1890–91 Professor Tarnier, the eminent French obstetrician, reports that out of 1,340 women delivered in his wards only 14 died, a mortality of 1·04 per cent., as against 2·50 per cent. of eight years ago, and 9 per cent. of thirty years ago. Of these 14 deaths *not one* could be put down to puerperal fever. It must be remembered that these wards are occupied by patients drawn from the lowest

social strata of Paris, and that as Parisian women are usually attended by midwives a large proportion of the cases sent into hospital are difficult ones. In America the results are still more startling. The mortality from puerperal fever at the New York Maternity Hospital has been reduced from 60 per thousand in 1883 to 2 per thousand, and at the Boston Hospital from 55·5 per thousand in 1882 to zero.

England was late in adopting antiseptic midwifery. The Lying-in Hospital in York Road, London, was, until 1877, scarcely ever free from puerperal fever, and the mortality was sometimes so fearful that the hospital was several times closed for long periods. In 1877 antiseptic principles were adopted, and the mortality, which from 1833 to 1860 had averaged 30 per thousand, and from 1860 to 1877, 17 per thousand, fell to 6 per thousand, and puerperal fever

was almost entirely banished. By the use of simple and rational methods so excellent a state of things has been brought about that in this large London lying-in hospital there has been but one death from puerperal fever in three years. Antiseptic precautions were introduced in 1882 at the Rotunda Hospital in Dublin by Dr. Macan, and the results were, as usual, in the highest degree satisfactory. At the International Medical Congress of 1884 Dr. Ingerslev, of Copenhagen, gave an interesting summary of his researches into puerperal mortality in Denmark, carefully checking his conclusions, which showed a distinct decrease in puerperal mortality, undoubtedly due to the adoption of antiseptic precautions. More recent statistics show that in Denmark, where antiseptics are in universal use among midwives, the mortality has steadily declined, and is now only about 3 per

1,000 for the country generally. At the Berlin International Medical Congress of 1890, Slawjansky, of St. Petersburg, read a paper on antiseptic midwifery in Russia. In that country it has been everywhere introduced with the result that puerperal disease and mortality is decreasing from year to year, and already shows quite satisfactory figures; in 1889, in fifty-two institutions, there were 21,280 births; 60, *i.e.*, 2·8 per thousand, died of puerperal fever. In the large Maternity Hospital at St. Petersburg, one of the best regulated in the world, only one death from puerperal fever occurred in three years, and that was in the case of a woman who was brought ill to the hospital. In St. Petersburg generally, outside the hospital, the general and puerperal mortality is very large.*

* See the important discussion at the Berlin International Congress (section of Geburtshülfe und Gynakölogie), when papers were read by Slawjansky of St. Petersburg, Stadtfeldt of Copenhagen, and Fritsch of Breslau.

Such is the condition of things to-day wherever attempts have been made to adopt reasonable precautions for the prevention of this terrible disease. But how does the matter stand in relation to the population generally?

In England and Wales 4,500 women die every year in childbirth. According to the most reliable statistics about 70 per cent. of this mortality is due to puerperal fever, so that, in the words of an eminent London physician, "almost the whole of this mortality might be avoided." That is to say, that every year in England and Wales over 3,000 women, the mothers of young children, are unnecessarily slain in the performance of a simple physiological function.

If we take a somewhat wider outlook we find that in the thirty years from 1847 to 1876 no less than 105,568 mothers died in childbirth. And if we look abroad, to

the United States, for instance, we find that in New York City alone, during the years between 1868 and 1875, 3,342 women died from diseases associated with child-bearing. On investigation 42 per cent. of these deaths are found to be due to hœmorrhage, consumption, or other non-puerperal diseases liable to complicate child-birth. The remaining 58 per cent. were due to puerperal fever. The actual number of births for the nine years in question was roughly estimated at 284,000, an estimate erring on the side of liberality. The total number of deaths to the entire number of confinements was thus, as Dr. Lusk points out, at least in the proportion of 1 to 85; or, from puerperal fever alone, in the proportion of 1 to 146. The Puerperal Fever Commission, appointed by the Berlin Society of Obstetrics and Gynæcology, collected statistics from which it

appears that this disease destroys nearly as many lives as small-pox or cholera.* But while these diseases exert their most fatal influence on the feeble, the young, and the aged, puerperal fever finds its victims among the mothers of children, adult and healthy women, who have simply become vulnerable through the exercise of the chief physiological function of their lives.

How unnecessary this slaughter is we realise when we investigate the experience of a medical man who, even amid the many difficulties of private practice, has been animated by a high sense of his responsibilities, and has always succeeded in maintaining an intelligent system of sanitary precautions. Dr. Dysart McCaw has re-

* Böhr calculated that in Prussia alone in the years 1816–75 over 360,000 women died of puerperal fever, being as many as from cholera and small-pox together during the same period.

cently stated that during an experience of some twenty-two years he has attended 2,500 labours without a single maternal death. He attributes this very happy record mainly, if not solely, to the observance of strict cleanliness in himself, the nurse, the patient, and the surroundings. The counsel to be addressed to the modern obstetrician is, with a difference of meaning, the same as that which midwifery writers of old urged on their disciples: "Thine is a high and holy calling; see that thou exercise it with purity."

But, as a matter of fact, what do we find? We have seen what is possible at great centres of medical activity, and what is possible also even in the case of a single-handed private practitioner, who is intelligently alive to his responsibilities. Our private practitioners are often over-worked, and consequently apathetic; they are sub-

ject to no inspection, and in touch with no great quickening centres of medical activity; they are not legally compelled, as in Germany, Russia, and elsewhere, to use any antiseptic precautions, and, as a matter of fact, they rarely do use any such precautions.* Under these circumstances, the

* As an example of the precautions to be adopted by midwives it is worth while to quote the following Rules issued in January, 1892, by the Committee of the Lying-in Hospital, York Road, Lambeth, and to be obtained from the Secretary for one penny. They were drawn up in consequence of an appeal for some authoritative code, by Dr. Cullingworth, of St. Thomas's Hospital, and were carefully considered by other distinguished London obstetricians. It may be added that the rules fairly correspond with those used abroad; corrosive sublimate was first introduced into obstetric practice by Prof. Tarnier, of Paris; he is, however, very guarded in its use, preferring for internal use (as recommended in these Rules) permanganate of potassium.

Rules for the use of Antiseptics in the Practice of Outdoor Maternities issued by the Committee of the General Lying-in Hospital.

1. Every midwife should possess a bag, which she should take with her whenever she is summoned to a woman in labour.

results which we actually find are not sur-

2. The bag should contain, besides other necessaries, the following:—(*a*) A box containing twelve antiseptic powders, each powder consisting of 10 grains of corrosive sublimate (perchloride of mercury) and 1 grain of cochineal. The box should be labelled, "The corrosive sublimate powders—poison." (*b*) An ounce bottle (with wide mouth) containing crystals of permanganate of potassium. (*c*) A bottle containing 2 fluid ounces of glycerine, in which 1 grain of corrosive sublimate has been dissolved. The bottle should be labelled, "The corrosive sublimate glycerine—poison." (*d*) A douche tin, capable of holding two quarts, and fitted with a long india-rubber tube, stop-cock, and vaginal nozzle. (*e*) A nail brush and a piece of soap. (*f*) A bath thermometer.

3. Before making a vaginal examination, the midwife should prepare an antiseptic solution in the following way:—One of the corrosive sublimate powders should be placed in a clean basin, and one pint of hot water should be poured upon it, and stirred with the finger until completely dissolved. This solution will be of the strength of one part in 1,000.

4. The midwife's nails should be kept short.

5. Before making the examination or touching the genital organs the midwife should wash her hands and wrists with soap and hot water, cleaning her nails with a nailbrush; she should next rinse them free from soap; then she should hold her hands for a full minute in the antiseptic solution already prepared. The hands should not be wiped before making the examination, but the fingers should be anointed with the "corrosive sublimate glycerine." *Note*—No substitute for

prising. The hospitals have led the way,

the "corrosive sublimate glycerine," such as lard or vaseline, should be used for anointing the fingers.

6. Having made the examination, she should again wash her hands in soap and water.

7. All sponges should be plunged in the antiseptic solution and kept in it for a full minute before being used.

8. After labour the external parts should be washed with the antiseptic solution.

9. Catheters, before being used, should be plunged in the antiseptic solution for a full minute, and then anointed with the "corrosive sublimate glycerine."

10. If the discharge become offensive, and a vaginal douche be required, the douche should be prepared by dissolving one teaspoonful of the crystals of permanganate of potassium in two quarts of hot water, of a temperature of 110° F. The solution should be of the colour of claret.

11. To prevent ophthalmia, or sore eyes, in the child, the midwife should wipe its eyelids with a clean napkin as soon as its head is born. This should be done, if possible, before the eyes have been opened. When washing the child the midwife should separate the lids, and squeeze over the eyes a clean white rag or piece of cotton wool that has been soaked in the antiseptic solution.

12. If the midwife has been brought into contact with a case of puerperal fever, or other illness supposed to be infectious, she should immediately report the fact to the Managing Committee of the Charity. She should not proceed to any case of labour, or visit any of her patients, until she has the Committee's permission to do so.

but the private practitioners have not followed, and the puerperal mortality to-day, and certain tragic occurrences which take place from time to time, are lamentably in evidence. Over and over again has puerperal fever singled out the patients of some private practitioner who has brought death to mother after mother in succession. Every medical man knows of such cases. Dr. Lusk has investigated this matter in New York. Studying the records of that city for nine years, "I find," he says, "that the occurrence of two deaths from puerperal disease, following one another so closely as to lead to the suspicion of inoculation occurred to thirty physicians; a sequence of three cases occurred in the practice of three physicians; one physician lost three cases, and afterwards two, in succession; one physician had once two deaths, once three deaths, and twice four deaths, following one another;

finally, a physician reported once a loss of two cases near together, then of six patients in six months, and then of six patients in six weeks." After enumerating these awful facts, he adds: "Not one of the sequences mentioned occurred in the practice of a physician connected with a lying-in hospital." He found that the total loss occurring from all puerperal causes in the private practice of ten physicians intimately associated with such institutions numbered during nine years but twenty-one cases; while a single physician, unconnected with any hospital, lost during the same period twenty-seven cases, of which twenty-one were cases of puerperal fever. Dr. Lusks point out, at the same time, that, in his opinion, the infection is even more often carried by nurses than by doctors.*

* Lusk, "Science and Art of Midwifery," p. 634. Dr. Oliver, in a paper on "Puerperal Septicæmia," read at the

In the present year a series of deaths from puerperal fever led to the appearance of an uncertificated midwife at the Old Bailey on a charge of manslaughter. This woman attended, on the 8th of December, 1891, a case in which death resulted from puerperal fever; on the 12th of December she attended another woman, who also died from puerperal fever; she was warned by a doctor that she ought not to attend any more cases for a couple of months, and that she should disinfect herself; but on the 12th of January she was found in attendance on another woman, who also died from puerperal fever. The prisoner said she was "ignorant of having any complaint about her"; one or two witnesses talked vaguely about "drainage and

British Gynæcological Society Congress in 1891, gave the history of numerous cases in private practice which had come under his notice, in which disease and death had been carried from patient to patient by both doctors and nurses owing to the neglect of elementary antiseptic precautions.

unhygienic surroundings." The jury found a verdict of "Not guilty," and expressed the opinion that the midwife "left the court without a stain on her character," and the judge "quite agreed." It would be difficult to find a better illustration of the present state of things, and comment is scarcely necessary. The verdict itself, it may be said, was much more reasonable with reference to an uncertificated midwife than it would have been with reference to a qualified medical man. The judge and jury seem to have felt that this woman's "negligence" was too natural and habitual to be fairly called "criminal," and that therefore she must be allowed, "without a stain on her character," to pursue her sanguinary career. The real crime, it cannot be too emphatically asserted, lies at the door of the community which permits a totally ignorant woman to exercise a responsibility fraught

with such terrible issues. There are in this country 900,000 births per annum, and of this number midwives attend about 500,000, more than half. The average mortality in childbirth is about 1 in 200, but it is found that in the cases undertaken by such trained midwives as are employed in lying-in hospitals the mortality is only 1 in 600. So that from this point of view also we see an annual slaughter of 3,000 mothers, which might be prevented by ensuring the training of midwives. In all other countries midwives are more or less under State control; in this country any woman, however foolish and ignorant, may practise as a midwife, and let the results be as awful as they will, she emerges as we see "without a stain upon her character." We have a deep-rooted love of liberty in England, even when liberty means wholesale manslaughter. Several attempts have indeed been made to

introduce the most necessary reform involving the due training and registration of midwives, but hitherto they have proved abortive, largely in consequence of lack of active support from the medical profession. The reform, as Lord Cranbrook lately pointed out, is not one that can be settled by laymen alone, and the apathy, or even actual opposition of medical men is, I am bound to confess, far from creditable to the profession.

It is clear that the exercise of the midwife's art can only be safely entrusted to well-trained men and women, who are in contact with some large central institution, and who are, to some extent, subject to supervision.

It is also very clear that, if this very necessary end is to be attained, we need a far more educated public opinion than we possess at present.

X.

THE DENTIST'S PLACE IN HEALTH NATIONALISATION.

The neglect of the teeth—A source of disorder and disease—In childhood—Magnitude of the evil as shown by investigations among school children—What might be done.

THE care of the teeth has at present only to a very limited extent, and in very few countries, been regarded as a matter of public health, to be dealt with systematically. Here and there the routine examination of children's teeth at school has been introduced, but for the most part the matter has been left entirely to individual apathy and ignorance. The result is that among all classes—for the well-to-do are in this

matter usually as uncivilised as the poorest —the teeth are often left to take care of themselves until some prolonged attack of toothache makes life intolerable, or until, perhaps, there are very few teeth left to care for. Not many of us learn until we are approaching middle age the comfort, economy, and hygienic importance of the trifling amount of attention necessary for the care and preservation of the teeth. This means a vast amount of avoidable misery and discomfort. It means also that the mouth must frequently be converted into a cavern of impurity not pleasant to contemplate. And it is now beginning to be recognised that neglected caries of the teeth is responsible for a considerable amount of more serious disease. "Neuralgia," in a great number of cases, it is scarcely necessary to remark, has its point of origin in a neglected tooth. The same

cause often leads to diseases of the upper jaws, such as empyema of the antrum. Cases have been recorded in which decayed teeth have produced epilepsy, which ceased with the removal of the teeth. It has lately been said by an experienced dental practitioner connected with a hospital for the special treatment of nervous diseases, "I am, after mature consideration, of opinion that three-fourths, or certainly a large proportion, of those nervous troubles which defy the physician in various parts of the body have their origin in the teeth. So interminably tangled and complicated is the nervous system, so nicely does it adjust the relations of all our organs, that there is little need for surprise when we find that cause and effect are widely separated in an anatomical sense." However this may be, and the estimate is no doubt excessive, there can be no doubt whatever as to the

great desirability of the routine examination of the teeth, and as to our habitual indifference concerning the matter. More especially is this indifference marked in childhood and youth, precisely the period when the matter should especially claim attention. As Mr. Fox, dental surgeon to the Victoria Hospital for Children, has recently said in an address to the Medical Officers of Schools' Association :—"The care of the teeth in childhood is a subject of real and great importance, and should claim the attentive consideration of medical men, and especially of those whose energies are exerted on behalf of the young. Much may be done during the early years of life—especially in that important epoch, the second dentition—by combating deleterious influences to further the development of sound structures, and to give some promise of useful masticating agents.

Doubtless many of the dental troubles of adult life are due to a careless disregard of the teeth when first erupted, and during the earlier years of life, at a time when frequent inspection and judicious attention may encourage the hope of some immunity from dental disease. . . . Caries is the most frequent disease of the dental structures, occurring as a rule in early adolescence, soon after the teeth have been subjected to the exposure and wear and tear of their function, when the perfection of their structural development is put to the test and is but too often found wanting, and in consequence of inherent defect incapable of resisting the action of pernicious influences, such as pressure of contiguous teeth, the solvent properties of abnormal saliva, and acid mucous secretion of the gums and oral tissues. These conditions are the immediate causes of decay, the deposition of

tartar of a peculiarly destructive character forming a nidus for the growth of bacteria and leptothrix, and rapidly affecting the enamel by disintegrating its structure; the presence of supernumerary teeth, and other abnormal conditions also calls for prompt treatment. . . . Not only is an irregular position of the teeth disfiguring, but, by the increased and continuous pressure upon contiguous teeth which this condition usually entails, it constitutes a most frequent cause of decay of their structures, as well as being an occasional cause of certain systemic derangements arising from reflex nervous irritation." *

The magnitude of the evil that may be so easily remedied may be shown by briefly stating the results of some recent investiga-

* Mr. Smith Turner's presidential address at the meeting of the British Dental Association, 1891 (printed in the Journal of the Association), is an excellent epitome of the causes of tooth degeneration.

tions carried on in this country. The Report of the School Committee appointed by the British Dental Association in 1891, derived from the examination of over 4,000 children mostly in industrial schools, reformatories, and training-ships, showed some startling figures with reference to the prevalence of dental caries. From the nature of the investigations these children belong to the lower class, but a comparatively very small number of cases examined in a middle-class school gave even worse results. In infants—defined to be those who have not cut a permanent tooth—the figures showed that a considerable number of teeth are decayed as early as the second or third year, that the number of decayed teeth increases as age advances, and that the proportion of those free from caries is about 26 per cent. only. Perfect sets of permanent teeth, observations of which

were taken between ten and twelve years of age, gave 109 per 1,000. Under the heading of retarded eruptions of permanent and undue retention of deciduous teeth there was over 11 per cent., and the Report adds that this class of cases serves clearly to explain how a large number of irregularities of the permanent teeth occur which are obviously of a preventable nature, and irregularities being a recognised predisposing cause of decay, the importance of this table is considerable. Honeycombed teeth existed in about 5 per cent., and hereditary syphilitic teeth, the peg-shaped teeth of Hutchinson, in 0·5 per cent.*

At the London International Congress of Hygiene, Dr. Cunningham brought forward statistics he had collected, showing that 56 per cent. of the upper molars were decayed before the eighth year. The lower molars

* *Lancet*, August 29, 1891.

came first and decayed at once, 20 per cent. being decayed during the first year and 70 per cent. by the third year. The cause, he considered, was not due to fermentable matter in the mouth, otherwise the central incisors and other teeth would be equally attacked. The cause was intrinsic; the molars came with defects in shape and were injured by the decay of the first teeth. The mouth was practically an incubator for the development of bacteria, and we wanted better teaching of the protection of the teeth. In some schools they gave good marks to children who kept their teeth clean, and one dentist, for the modest salary of £20 per annum, was found to have saved 80 per cent. of the pupils' teeth when the figures were compared with the average prevalence of decay. In 1892, Mr. R. Denison Pedley and Mr. Sidney Spokes asked and received permission to examine

the mouths of the 1,000 children at the Central London District Schools at Hanwell, and at the request of the Board of Management furnished a report. The number of teeth examined amounted to some 20,000, and the statistics occupied four months in compilation. Of the temporary teeth 1,119 required stopping and 745 extracting; of the permanent teeth 1,222 required filling and 271 extracting; there were, therefore, as many as 3,357 unsound teeth present in the 903 mouths examined, while over and above this 83 mouths required the teeth to be regulated by mechanical means. There were only 137 mouths in which the dentition was sound. * Still more recently there

* In a Report presented by these gentlemen to the British Dental Association (*British Medical Journal*, March 26, 1892), they made the following excellent observations and suggestions:—"There is an increasing recognition of the importance of a systematic care of the teeth, apart from any æsthetic consideration. In the case of children, who during the growth of the body have not merely to maintain nutri-

has been an investigation of the teeth of nearly 2,000 children in the schools at Sutton,

tion, it is surely a matter of urgency that all the organs of digestion should be kept in a state of functional integrity, and if, as seems to be the case, diseases of the digestive tract are increasing, it is evident that any departure from the normal dentition places the child and the future adult at a disadvantage. Instead of waiting until a child suffers pain, and thus directs attention to a decayed tooth, it is far better for both patient and operator that the earliest appearance of caries should be noted, and the progress prevented by a regulated system of inspection and prompt treatment. Under such circumstances dental disease and the necessity for painful operations become reduced to a minimum, and at the same time the function of mastication is retained in accordance with what is now recognised as the most beneficial practice. Referring once again to the figures, we would point out that 766 children have between them 3,357 unsound teeth, 1,222 of which are permanent teeth requiring filling. This points the way so clearly that we have no hesitation in recording our opinion that a duly qualified dental surgeon should be appointed to your school, and, after careful consideration, we append the following suggestions with reference to such an appointment:—That in order to cope with the disease of the teeth at present existing in the school, it is advisable that the dental surgeon should attend once a week (morning and afternoon) for at least two years. That an inspection of the children's mouths be so arranged that each would be examined twice during the year, new

and the resulting report sent in to the Board of the South London Metropolitan School District has revealed a state of things no less serious than that at Hanwell.

A periodical examination of the teeth, with the correction of any defects, should be a matter of routine in childhood and youth; the examination could best be carried out in connection with the school, and the correction of defects would naturally be made at the hospital or health institution of the district. Even the most independently

cases being seen at the first visit after their arrival. That a record be kept of all operations performed at each visit, and a report presented to the board. That the board should pay a salary of at least £100 per annum for the first two years, and provide the following: Dental chair (say) £7 10s.; dental engine (say) £7 10s.; stopping materials (say) £5 (annually.)" In accordance with these recommendations a dental surgeon was shortly afterwards appointed (July, 1892), with the sanction of the Local Government Board, to the Central London School District. He is to attend weekly, and furnish a monthly statement for the House Committee, and a general report at the end of twelve

minded person could scarcely object to so simple and wholesome an examination being carried out systematically. After the school-age, however, it seems scarcely necessary to make a periodical examination compulsory. When the good habit had once been formed and its desirability shown, the continuation of it might very well be left to the individual's own good sense.

months. The work will be so arranged as to secure an examination of each child every six months, those in the probationary ward being inspected on the first visiting day after admission. The equipment includes a Morrison chair, dental engine, and other necessary instruments. This is certainly an important step in the right direction.

XI.

THE REGISTRATION OF DISEASE.

Dr. Richardson's proposed Ministry of Health—The notification and isolation of infectious disease—The inclusion of measles, whooping-cough and consumption—Notification in America—The system carried out at Zurich—The importance of including preventable diseases generally, not merely infectious diseases.

WHEN Dr. B. W. Richardson some years ago suggested the establishment of a Ministry of Health, by a true instinct he proposed to found it on the present Registrar-General's office. "That office," he observed, "amended in name and in function, supplies all that is required as a nucleus. The work of estimating life and death which now goes on there is the true foundation of all our efforts. This

work ought to remain as the foundation." The duties of the Ministry of Health were to embrace—(1) registration; (2) reporting meteorological conditions; (3) collecting coroners' returns; (4) transfer of the medical duties of the Local Government Board; (5) the superintendence of food analysis and the detection of adulteration; (6) factory supervision; (7) veterinary supervision; (8) prison and police supervision; (9) supervision of public works.

This scheme is, no doubt, still too extensive to be within the range of practical politics, and the desirability of some of its details may, to-day at all events, be matter of question. But in regard to its fundamental element—the importance of the methodical registration of disease, and of the chief conditions which influence disease—there can be no sort of doubt. This is, indeed, a matter which is every

day becoming better recognised; and since Dr. Richardson laid down the chief lines of his proposed Ministry of Health on the basis of registration, the Notification of Diseases Act has been passed. In former years this Act would have been regarded as an unwarrantable infringement of the right of the subject to have, and to inflict on his neighbours, as many infectious diseases as he may think proper; to-day, this Act has not only been passed with ease, but amid murmurs called forth by its incomplete and merely permissive character. The omissions have, especially, called forth severe criticism.

Measles is an infectious disease, which produces terrible mortality, while little or nothing is done to prevent its spread. It causes some 15,000 deaths in the course of a year in this country, more than double as many as scarlet fever. It has, more-

over, increased within the last fifteen years, the mean death-rate from this disease throughout England and Wales having risen from 277 per million of the population for the decennium 1871–80, to 422 in that of 1881–1890. "Of the 3,291 deaths from measles in London in 1890," as Dr. Stevenson remarks, "mostly of children under five years of age, a number nearly quadruple that from scarlet fever, and the highest recorded during the last fifty years, it may be safely affirmed that the greater number were preventable." Yet it is rarely considered necessary to add measles to the list of notifiable diseases, and so to bring it under control; though by means of the notification system it has been found possible to avoid closing schools during epidemics, with all the evils which such a step involves, and to stamp out a threatening epidemic by close personal medical

supervision, the exclusion of children from infected houses, and instructions to teachers to watch for the first febrile or catarrhal symptoms, sending home and reporting any that seem in the least degree suspicious.*

It is probable that whooping-cough—a disease almost as fatal as measles—would, if similarly dealt with, be brought with equal ease under control, but as yet the attempt is rarely, if ever, made. Nor have we yet seriously considered the question of how to deal with consumption, which is

* See the experiences of Dr. A. Campbell-Munro narrated to the Epidemiological Society, *Lancet*, June 20, 1891, and to the Society of Medical Officers of Health, June 18, 1892. He showed that in Jarrow there had been between 1883 and 1891 inclusive five biennial outbreaks, and the notification having been respectively none, voluntary late, voluntary early, compulsory late, and compulsory early, the mortality had steadily declined from 4·0 to 0·7 per 1,000, or nearly one-sixth. On one occasion 28 out of the first 29 cases occurring simultaneously in one district were those of children in the infant department of a single school. Under these circumstances prompt closure led to the extinction of the epidemic in a fortnight or three weeks.

only among the least terrible, because unfortunately among the most familiar of the infectious diseases we have to meet.

In those countries in which the notification of infectious diseases has been carried out more thoroughly than in England, the results are, as might be expected, more striking. Thus, at the London meeting of the International Congress of Hygiene, Dr. Hewitt, of Minnesota, remarked that in his own State a notification Act had been passed at the request of the people, and had been in force for eight years. Before this Act was passed, out of a population of 600,000 there were 1,200 deaths from diphtheria per annum; now the population had more than doubled, while the annual deaths from diphtheria had fallen to 761. In England, as is well known, diphtheria is on the increase. In Montreal, again, stringent regulations are in force, with the result that "epidemic

diseases are becoming rapidly stamped out." The Congress, after hearing the objections to the notification system (coming chiefly from a very small section of medical men who could not see why the duty of notification should be thrust upon the doctor), almost unanimously passed a resolution that "Notification of infectious diseases in all countries should be compulsory."

One of the best systems at present existing for the notification of disease is that which has been established at Zurich as the result of experiments which have been carried on for many years.* A board of health for the town is established in the office of the police, whose duty is to attend to the sanitation of the town, its water-supply, and all questions affecting the health of the inhabitants. To this office all communications concerning health and sanitation must

* See *Lancet*, January 18, 1890.

be sent; and prompt action when necessary is immediately taken by the health inspector. Every case of sickness to which a medical man is summoned must be reported by him direct to the health bureau on his first visit; if of infectious type, whether mild or virulent, no choice is permitted: his report is compulsory. All medical men are officially supplied with a book of printed forms, of which the following is a copy:—

ANNOUNCEMENT OF INFECTIOUS DISEASES.

(*This certificate is to be delivered to the Board of Health of the place of abode of the patient.*)

Disease ————.
Christian and surname ———————— Male or Female
Age ———.
Calling (if children, calling of the parents) ————.
Place of abode —— street —— house No. —— Flat.
Alleged duration of illness to date ——— days.
Private treatment since ——— (Date of the first visit).
Hospital treatment in ——— since ——— (Date of hospital admission).

——— the ——— 18—.

——— Doctor in attendance.

N.B—That printed above and on the back which does not apply is to be struck through.

On the back of the form is printed:—

1.—Presumed source of infection, unknown, or what? ———.
2.—Is the patient domiciled here? Yes or No. —— Has he travelled hither? Yes or No. ——. Whence? ———.
3.—Regulations: Isolation of the patient. Yes or No. Prohibition of the visit of public meetings, schools, for all members of the family. Yes or No. Disinfection of the dwelling; of the excretal substances. Yes or No. House-arrest. Yes or No.
4.—Remarks: Sporadic or epidemic appearance ———.

These letters are always sent free of postage. Notice is not necessary in non-infectious and chronic illness. Where summoned, the medical man only is required to report; dual notice to the officials, as in the English Act, is not required. Should a case of infectious disease occur in which the doctor fails to report, he is liable to a penalty of from 10 francs to 100 francs,

unless satisfactory evidence is given that the omission was unintentional; on a second omission the penalty may be increased to 200 francs. In every return of puerperal fever the doctor must give the name and address of the nurse in attendance, so that she may be brought under the more immediate regulations provided in such cases. By this means slow or rapid dissemination is immediately traceable; if need be, more stringent steps can be taken to stamp it out. From these reports the central Board of Health issues weekly a most important table, giving the number of new cases occurring in the previous week. A copy of this table is sent to the doctors and members of the ten councils. This return is of a complete character; the numbers attacked in each parish enable the faculty to see the state of each, the immediate contagious disease more or less prevalent,

and the exact locality in which any given epidemic has distinctly declared its presence. Should any one form of contagious disease assume a virulent type, the table can be issued daily.

A system for the registration of so-called "infectious" diseases only, however excellent in its results, is not sufficient. The field of *infectious* disease, as generally understood, is but a small portion of the great field of *preventable* disease. The nationalisation of hospitals would eventually involve the registration at each institution of every illness and every injury, and the house or workshop in which it occurred. Thus every hospital would be able to show an exact and complete chart of all disease within its district. Such register would not be open to general inspection, but it would be an indispensable guide to the sanitary administration, and as reports

would be issued periodically, in the same way as the Vital Statistics (of which these more detailed reports would simply be an extension), it would also be an exact guide in the diagnosis of an innumerable number of social evils. We should possess in it a delicate instrument for ascertaining the relative healthfulness of occupations, as well as of houses, workshops, and streets; we could trace every source which poisoned the health of the community, and obtain an easy grip on the beginnings of disease.

There can be no doubt that a thorough system of disease-registration would be a source of increased trouble to various persons, and even of expense. It has, however, been calculated that preventable disease, even in the narrow sense of the word, kills yearly about 125,000 people in this country, and that, considering the large number of cases for every death, 78½ millions

of days of labour are lost annually, which may be said to mean £7,750,000 per annum, not including the minor ill-health caused by insanitary conditions. However this may be, it is very certain that the expense and trouble of even the most thorough system of registration would form but a small percentage of the saving it would ultimately effect.

XII.

THE INSPECTION OF INDUSTRIES.

The inspection of occupations is closely related to the organisation of health—Yet it is still in a rudimentary condition among us—A Home Secretary on the "source and secret of commercial prosperity"—The Factory Inspectors' Reports—Coal-mining and mineral-mining—Dr. Ogle on comparative mortality—Opinions of the Paris International Workers' Congress—Of the English Trades Union Congress.

UNDER any rationally organised system for the nationalisation of health, the oversight of the conditions under which the workers of all kinds live will receive far more attention than, unfortunately, it receives at present. The Department of the Inspection of Industries must be closely related with the Health Department, if, indeed, it should

not be amalgamated with it. It is in the interests of the community as a whole that the hospital population should be brought down to the lowest possible minimum; there is no more effective method of securing this result than by ensuring that the workers of the country should carry on their labour under conditions of maximum health and comfort. The inspecting force is thus the auxiliary of the hospitals; it is our first line of defence against disease; and economic motives alone, apart from humanitarian considerations, suggest that its efficiency should be raised to the highest possible point. The key to this, as to every other part of the health question, is that prevention, from every point of view, is better than cure.

The inspection of the conditions of health in occupation is still in a very rudimentary condition among us, although even in its

present elementary form the advantages it has bestowed are universally recognised to be immense. It has over and over again been pointed out that the powers of the inspectors are too limited,* that their number is so absurdly inadequate that they must sometimes take years to get through a single cycle of their duties, that a vast number of occupations are absolutely free from inspection, and that there are no women inspectors, even for such occupations as dress-making, in which women are exclusively employed.

While, however, these statements are constantly repeated, in official documents as well as in every newspaper, by those who

* Thus, to take an example which comes to my hand at the moment, Mr. Martin, a Chief Inspector of Mines, writes in his Report for 1891: "I have had much trouble and correspondence with several parties about old mine holes [in Cornwall]; in one case twenty-six communications passed before I succeeded in getting the work done."

are acquainted with the facts, our round-about political methods still enable a Home Secretary to put them aside with a promise for "careful consideration," and the remark that "it would be impracticable and, indeed, mischievous if it were attempted for the Government to undertake the supervision and control of private establishments by Government officials. It would be substituting Government management of industrial concerns for that private management which had been the source and secret of commercial prosperity." * Lawyers and members of Parliament are perfectly willing to sacrifice human lives wholesale to gratify their fanciful notions as to "the source and secret of commercial prosperity." Nor are those who take an emotional view of life much more sensitive. The Society for the

* Mr. Matthews (late Home Secretary), as reported in the *Daily Chronicle*, May 11, 1892.

Prevention of Cruelty to Animals is better supported than the Society for the Prevention of Cruelty to Children. Criminals, it is well known, frequently combine cruelty to their fellows with extravagant kindness to lower animals. The criminal sentimentalism of our time is aroused to fury by a few experiments on rabbits or monkeys, even though carried on under legal control and for a legitimate object; it bears with tolerable equanimity the reckless and wholesale sacrifice of human life.

To realise how great that sacrifice of human life is—to say nothing of the human misery which cannot be measured or recorded—it is sufficient to glance at Government publications. Thus, if we open almost at random Factory Inspectors' Reports, although these are by no means always so full or so carefully tabulated as they should be, we find, for instance, that the Leeds inspector, summa-

rising his experience, registered 460 fatal accidents, of which 370 might have been avoided, only 90 being unavoidable. In the following year the total had risen to 496, and the proportion of preventable accidents, rising with still greater rapidity, reached 450, leaving only 46 to be accounted for by causes beyond control. In Germany, it appears from official reports that the number of workmen killed by accidents every year is about 5,000, and varies little from year to year; about 35,000 are seriously wounded per year. As M. Vacher has pointed out, this number of killed and wounded is far larger than that at Gravelotte, one of the most murderous battles of the century. In England, of 527,000 persons employed in coal-mining, 100,000 are disabled for a longer or shorter period every year, and 1,000 killed; or, to take a single region, there are in the Monmouth

and South Wales district, it appears, 280 non-fatal accidents per thousand miners employed. Apart from accidents, coal-mining, as judged by the mortality rates, seems to be a rather healthy occupation. Other kinds of mineral-mining are directly injurious to health. In some of our mining towns the stunted and diseased aspect of the passers in the streets sometimes suggests a procession of hospital out-patients. If we turn to the tin and copper mines of Cornwall, we find the proportion of accidents lower because we have not to reckon with the risks of fire-damp and machinery working at high velocities in long roadways and shafts. But, on the other hand, the mortality from disease is far greater among the Cornish metalliferous miners than among coal-miners, and is double that for Cornish males generally. It has increased rather than decreased of

recent years, possibly because mining in Cornwall is a decaying industry, not now employing more than 12,000 men (as against 30,000 in 1873), many of them too young. For nearly fifty years, however, two-thirds of the mortality of Cornish miners has been due to phthisis and other diseases of the respiratory organs, and the mortality from these causes, and in a less degree from other causes, has shown a marked excess over that of coal-miners as well as over that of Cornish males generally. Dr. Ogle * has shown that what he terms the comparative mortality of these diseases in the aggregate, which among fishermen is 198, rises steadily in the various dust-producing occupations to 760 among cutlers, 783 among file-makers, 1,118 among those engaged in earthenware manu-

* Registrar-General's Supplement to the Forty-fifth Annual Report.

facture, and to 1,148 among Cornish miners. The comparative mortality from diseases of the respiratory organs, apart from phthisis, is from 90 among fishermen to 458 among Cornish miners, rising still higher to 645 among earthenware manufacturers. The mortality from the two headings combined is nearly four times as high among Cornish miners as among coal-miners. It is necessary to bear in mind this double stress on the workers from these two sets of unsafe conditions and unhealthy conditions. The curious compensation between them—the relatively healthy being unsafe and the relatively safe unhealthy—might be illustrated in numerous occupational fields.

Although facts of this order are to a large extent ignored by politicians, too busily occupied with the academic discussion of "Coercion," "Home Rule," and other more or less admirable panaceas, they have by

no means escaped the attention of working-class Parliaments. It is sufficient to refer to the wise decisions formulated by two recent congresses of workers, one national, the other international.

In 1889 an International Workers' Congress, the largest and most representative that has ever been brought together, was held in Paris. It was organised by the Possibilists, who form a considerable section of the Municipal Council of Paris. There were 613 delegates present, representing fourteen countries—France, England, Belgium, Austria, Hungary, the United States, Denmark, Portugal, Italy, Holland, &c. This influential Congress gave much attention to questions of health. They unanimously passed a resolution fixing the day's work at ten hours as a maximum, to be enforced by an international law; an amendment proposing

an eight hours' day was lost by a small majority. They proposed to prohibit the work of children under fourteen, and restrict that of young persons between the ages of fourteen and eighteen. They insisted on the importance of due inspection, and of working-men inspectors. It was also recommended that home-work should be abolished, or else that homes in which it was carried on should be registered and brought under inspection. The Congress declared that the same price should be paid to both men and women for the same work.

Such were a few resolutions of this Congress, bearing directly or indirectly on the nationalisation and internationalisation of health. At the English Trade Union Congress, held in the following year, sanitary questions also occupied much of the delegates' time and attention. Thus there was a discussion of the composition of coroners'

juries in cases of death from accident. It was pointed out that a jury of tradesmen were not competent to decide concerning the cause of an accident in a coal mine, and a resolution was passed demanding that steps should be taken to enable men of the same trade as the deceased to sit on the jury. The question of inspection was discussed on several occasions. It was pointed out that, while Corporations sometimes passed excellent by-laws for the protection of workers from disease, there were no efficient bodies of inspectors to see them carried out, and that the workmen engaged did not dare to relate what they knew. The insufficient number of factory inspectors was a subject of very general complaint. Many delegates bore witness to the constant infringement of the Factory Act, and to the frequency with which women were made to work overtime.*

* Thus Mrs. Skelley, of the Liverpool Tailoresses' Union,

Resolutions were passed demanding the abolition of fines in factories, the increase of factory inspectors, and the nomination of women inspectors, as well as of men who had a practical knowledge of the "tricks of the trade." It was also argued that there is

declared that members of her trade were unanimous in demanding the appointment of more inspectors, and these in some cases should be women. The workwomen would be able to speak more easily to a woman inspector, especially if their complaints related to sanitary matters. She had found very often that when the inspector was about to visit a tailor's workshop the women were sent to other parts of the house, and were thus never seen by the inspector. In many shops, though the women were supposed to be allowed an hour for dinner, either at twelve or one o'clock, they were often kept by stress of work till four and five o'clock. This irregularity in the meal hour, coupled with excessive work in unwholesome, overcrowded workshops, contributed greatly to ruin the health of tailoresses. Not only are the wages insufficient, but numerous fines are inflicted which greatly reduce the earnings, especially of female workers. In some workshops women are charged 1d. per week for a peg to hang their hats and cloaks upon. Other employers charge 1d. for the lavatories, some 3d. a week for washing the floor of the workshop, yet the women have to do the scrubbing themselves; the money they pay is supposed to be spent in buying soap and brushes.

as much need to control workshops as public-houses and theatres, and a resolution was carried demanding that notice of intention to open a workshop should be served on the local authority, and that a duly qualified inspector should visit it to see whether it is properly lighted and decent accommodation provided, and that in all cases not less than 600 cubic feet of space should be provided for each person employed. Many other resolutions were passed dealing with questions of health, sometimes possibly of an impracticable character, but on the whole showing wisdom and common sense, and coinciding closely with the opinions of medical health experts.*

* It may be as well to point out that employers and employed are too often, on both sides, equally ignorant and reckless where the conditions of health are concerned. Dr. Stanwell, a factory surgeon at Rochdale (writing in the *Lancet*, March 14, 1891), says: "In the month of July, 1881, I was obliged to write to H.M. inspector in a case where an employer defied my refusal, and insisted on working a boy

It appears from the evidence given before the Labour Commission that in certain occupations, "coffin money," as it is called, is deducted from the men's wages. Every man pays a half-penny a week towards his own coffin. This is a merciful provision, and might be introduced into many employments, though the amount per week should be much larger. I wish now to call special attention to one such group of coffin industries.

with heart disease and serious eye disease, for which I am happy to say he was fined. On another occasion a bad case of heart disease and chorea, or St. Vitus's dance, was refused, and very soon ended fatally. On one occasion I have been threatened with legal proceedings by the father of a girl who had an epileptic fit in the mill office, while I was there for purposes of certifying; on another, in the case of a boy, totally unfit for factory employment, who had been three times presented to me for certificate, in the hope he might pass by a "fluke"; in another case the parents offered to indemnify the employer against consequences if accident or death from machinery should ensue to a girl suffering from deaf-mutism and debility." In Lancashire and Yorkshire alone nearly 140,000 half-time children are employed.

XIII.

WORKERS IN LEAD.

Sketch of the history of lead-poisoning — The various occupations affected—White lead manufacture—The "Dutch" process—Symptoms of lead-poisoning—Lead-poisoning in women—"White lead ghosts"—Remedies proposed.

I SHALL never forget an impression I received as a child when on a voyage out to Australia. The ship's carpenter lay sick in his berth for long weeks, and whenever I chanced to pass by the deck-house I heard the groans of the man tossing in his bunk. When we got into harbour the sallow, shrunken creature was lowered into a boat and taken to the hospital to die. For years after that ship's carpenter re-

mained fixed on my young mind as the supreme embodiment of human misery. It was the first case of lead-poisoning I had seen; I have seen many since.

Lead-poisoning is not a new disease or a modern discovery, although sometimes (as at Poitou, in the sixteenth century, through poisoned wine) it has been endemic for nearly a century without being recognised. Galen knew that if water passed through leaden pipes it might cause a kind of dysentery in those who drank it. Nicander, who lived a century before the Christian era, had an accurate knowledge of the symptoms of lead-poisoning; and Vitruvius, the Roman architect of the time of Augustus, would not allow the use of lead for the purpose of conducting water. It may be said, indeed, on the whole, that the ancients were far more careful in the use of lead than we have been during the present century, in

which lead has been introduced for a vast number of purposes with terrible results.

In the form of ore lead produces plumbism (or lead-poisoning) among miners by means of dust, and among smelters by means of vapour, as well as among the makers of oxide of lead during the process of calcination. In many occupations there is much dust and leading of the hands and clothes; thus file-cutters bed the files in lead when nicking them; leather-cutters cut upon leaden slabs, and sometimes in electric light works the plates are, it seems, bedded in red lead, a practice which leads to much lead-poisoning wherever it is adopted. Those who roll sheet lead, the makers of leaden pipes and utensils, of shot and of lead-foil, weavers employed at Jacquard looms furnished with leaden weights, plumbers, and workers in letter-type foundries, are all liable to suffer from plumbism.

In the form of alloy lead proves dangerous to pewterers, the makers of soft metallic capsules and of inferior German silver or pinchbeck. Potters (or rather dippers) have always suffered greatly from plumbism, as is shown by passages in old authors; the pots are dipped into a solution containing lead, in order to give the glaze to the ware. The makers of enamels or glazing materials also suffer, and among japanners plumbism is very common; the japanned articles are brushed by women with colours that often contain lead, and in the brushing much dust is produced. Plumbism is also found among makers of floor-cloth and linoleum, lapidaries and cameo-makers, brush-makers, who employ it to colour the hair or bristles, picture-frame makers, who sometimes form the raised pattern with a sort of cement or putty of which lead forms an ingredient; also among those who are engaged in the

operations of whitening Brussels lace, of colouring and weighting sewing threads and woven tissues, in the colouring of vulcanised india-rubber, used for feeding-bottles, and in gumming bands on to cardboard boxes. Lead, even in its more insoluble forms, will produce symptoms of poisoning, if taken into the system during a prolonged period; it is, however, the acetate, the oxide, and the carbonate which produce most disastrous results. It is in the form of the carbonate (or white lead) in the process of manufacture and among house-painters, as well as among colour-makers and mixers, that lead produces some of its most terrible and most common results.

White lead manufacture is a large industry. Over 60,000 tons are manufactured annually in Great Britain, and it is also imported in considerable quantities from Germany. It is used largely by shipping

companies for boats, deck, and cabin work, or wherever a white coating is required. Railway companies use it for stations, signals, waggons, carriages, palings, &c. The London and North-Western Company, for instance, invite tenders annually for from five to six hundred tons, while the Admiralty require seven hundred tons. Besides its use as a white coating, it forms the body in nearly every coloured paint.

In our own country nearly all this white lead is produced by one method, the so-called "Dutch" or "dry" process, which was introduced about the year 1780. As many as eight hundred patents for new processes have, it seems, been taken out during the last fifty years, but the old Dutch method still appears to maintain its place. It is a simple process, but slow, costly, and extremely dangerous to the health of those employed. The chief

centres of the manufacture are at Newcastle, Glasgow, and London, and it may be briefly described thus *:—Thin sheets of lead are placed upon the top of small earthenware pots, which contain strong acetic acid; the pots are arranged side by side in ordinary tan, and covered with planks; another layer of pots similarly arranged in tan is placed over these, and over these again another, and thus a "stack" is formed of alternations of planks and layers of pots. This is known as the "blue beds," and is of itself not dangerous. The acetic acid slowly volatilises by the heat induced through fermentation of the tan, and the lead is converted into a subacetate, and subsequently into a carbonate. When the conversion has become complete, girls enter the stack—now known as "white beds"—and remove

* I chiefly follow here the account of the process given by Prof. Oliver.

the layers of carbonate of lead, carrying it in little trays on their heads, first to the rolling mills, where the white is separated from the metallic lead, and subsequently it is taken to the stoves—a chamber not unlike a dairy, shelved all round for the trays to rest upon, and always at a high temperature, seldom less than 190° F. It usually takes about fourteen weeks for the lead in a stack to be completely converted into lead carbonate or white lead. If the girls are allowed to enter the stack too soon—that is, before the lead acetate is fully converted into lead carbonate—they suffer very readily and severely from colic. The readiness with which girls suffer in the white beds is regarded by observant overseers as an indication of the incompleteness of the lead acetate. The "white beds" and the "stoves" are probably the most dangerous parts of the lead making, and nothing injures a girl

more than a few weeks of work in this part of the process. After being thoroughly dried the lead is ground and worked, then reduced to a fine powder. In this form it is packed in casks; this operation is also attended by a certain amount of danger.

It is among the workers in these white lead factories that acute cases of lead-poisoning most frequently occur; it has been carefully studied by Dr. Thomas Oliver at Newcastle, the headquarters of the manufacture. One of the earliest symptoms is a rapidly increasing anæmia; this is followed by colic, headache, vomiting, and defective or double vision. In a few days the patient may become convulsed, comatose, and die. The illness may be so rapid that no alteration can be found in the organs, beyond a watery condition of the brain. Lead-poisoning is much more frequently chronic, and in the chronic form its

disastrous results, although more various and prolonged, are scarcely less serious. Dr. Oliver * considers that, while it is difficult to say how plumbism in men and animals is brought about, it affects primarily the organs of elimination, such as the liver and the kidneys, and that whatever consequences follow are due to the presence in the blood of secondary poisons, arising out of the imperfection of liver and kidney functions. One of the peculiarities of this terrible and insidious poison lies in the fact, which makes it specially dangerous to workers using lead, that its introduction into the human system in very minute quantities over a lengthened period is followed by more serious and persistent symptoms than when it is taken in larger quantities for a shorter period. The symp-

* Goulstonian Lectures on Lead-poisoning, delivered at the Royal College of Physicians of London, 1891.

toms may be so variable, insidious, and remote, that medical men sometimes fail to trace the patient's disease to its source, and it has even been said that the medical author of a book on lead-poisoning himself suffered from the malady without knowing the cause of his illness. In estimating the mischief wrought by lead on the workers we must, as Dr. Oliver points out, consider not only its direct mortality, but also the number of deaths due to diseases of organs that are known to suffer in lead-poisoning, such as the kidneys and nervous system. The high death-rate among plumbers, painters, and glaziers is largely due to the direct influence of lead-poisoning, but associated with this there is an extremely high mortality from diseases of the kidneys and nervous system, indirectly due to the same cause. Among file-makers also, who, as has already been mentioned, suffer much from

lead-poisoning, there is a high death-rate from diseases of the kidneys, nervous system, and circulatory organs.

It is very easy to bring forward examples of the subtle and remote action of this widespread poison. An inquest was recently held on a woman who had been engaged in a white lead factory on the Tyne; and a verdict of poisoning from lead was recorded; it was shown that she had left off the work for two years and a half. Cases of paralysis, at first put down to other causes, have been found to be due to the use of hair-dyes containing lead. Even sleeping in a house in which rooms remote from the sleeping chamber have been recently painted has caused undoubted symptoms of plumbism. In France women have suffered from the same cause simply through washing the clothes of their husbands who were workers in lead factories.

The same influence extends to animals. The fumes that arise from the smelting of lead cause lead-poisoning in the cattle grazing in the neighbourhood. In some of the dales of Durham the animals thus affected are said to be "bellond," an old term connected with the French *bellon.* This poisoning has sometimes been of a wholesale character, the animals dying with symptoms of pain in the abdomen, and constipation. Dogs which have slept on the coats of their masters who were lead smelters have also become "bellond." Birds that have eaten the berries of mountain ashes near forges in Germany have fallen either dead or paralysed at the foot of the trees. The stags who roam about the country near these same forges show diseased or stunted antlers, and their reproductive organs, like those of men, are also affected by the poison.

This influence of lead on the reproductive organs is of some importance. Lead strikes early at the sexual functions, producing sterility, liability to abortion, and many other disorders peculiar to women. Now, women, as Dr. Oliver has shown, are peculiarly sensitive to the action of lead; they suffer at an earlier age; they are more likely to suffer severely; and they are more liable to serious nervous complications, as epilepsy; also in epidemics of lead-poisoning, due to the contamination of drinking water by passing through lead pipes, women are affected in larger proportions than men. And many of the industries in which lead is employed are very largely in the hands of women. That portion of humanity which is most vulnerable to the attack of this strange and terrible enemy is set in the front of the battle. Women are largely engaged in the most dangerous departments

of white lead factories—the "white beds" and the "stoves"—and the result of even a few weeks' work on a girl here are often most disastrous. The enamelling industry, again, is largely in the hands of women; and a surgeon at Bilston recently stated at the inquest on a girl-enameller of seventeen who died from lead-poisoning, that he "did not know a woman who worked at the trade who did not suffer more or less from lead-poisoning. He had attended a large number of such cases." * As to the precise effect which lead produces on the nervous systems of women, perhaps no more graphic picture could be presented than that given by Mr. Bevan Lewis, the superintendent of the West Riding Lunatic Asylum. He is referring to the frequency of the insanity of adolescence among the poorer classes:

* *British Medical Journal*, April 9, 1892.

"One of the most glaring instances is presented by certain white lead manufactories, where young women are occasionally employed at an early age. They are continuously exposed during their employment to the direct contact of the metal with the skin, and to the acid fumes arising from the *stacks*. Their work is laborious, irksome, devoid of interest, and most prejudicial to health. The metal is rapidly absorbed, and produces profound changes in the constitution of the blood; extreme anæmia results, nutrition is generally impaired, and the menstrual discharge, if not present, is checked and suppressed indefinitely; or, if it has appeared, it becomes irregular, and soon absent. Lead colic is frequent; yet the poor sufferers persist in their insanitary occupation. Their pallid faces, immature growth, and arrest of the usual indications of budding woman-

hood, gain for them in their neighbourhood the sobriquet of the 'white lead ghosts.' Employment here at an early age before puberty is established, always results in its arrested development, and in indications of serious malnutrition of the nervous centres. Hysteric attacks are frequent; the natural womanly instincts are not aroused, or are replaced by morbid sentiments, unnatural desires, and vicious habits. In place of the expansion of the higher emotional nature which befits her for the duties of womanhood, and which renders her an object of respect and regard upon the part of the other sex, she remains a girl with childish sympathies up to mature years; or sexual instincts awakened into partial life, uncontrolled by higher emotional developments, render her an object of aversion to others. Nervous derangements are peculiarly frequent; chorea, epiliptiform seizures, cataleptic states

or actual insanity may develop." * Such is the price we pay for white paint.

I have but faintly outlined a few aspects of the lead industries as they exist in England to-day to poison the lives of so many men and women, but even this slight sketch seems enough to show that it is the duty of the community—to whom, after all, these "white lead ghosts" belong—to exercise in regard to these industries a severe organisation and oversight. Wherever "individual initiative and independence" is but a fine euphemism for the ruin of human lives as cheaply as possible, and as young as possible, there should be a certain amount of check to individual liberty and initiative.

It is probable that many of the most dangerous processes could either be im-

* Bevan Lewis, "Text-book of Mental Diseases," 1889; p. 350.

proved by the substitution of some other substance, or abolished. Considering the great danger of these industries, this is a question in which the community is clearly entitled to a voice. Where lead must still be regarded as essential, the control of experts might ensure the adoption of slight modifications in the process or the apparatus, leading to a great gain of health and life; this has already been done in part with very beneficial result; thus the introduction a few years ago of a hood in front of the smelting furnace, thus sending the fumes up the chimney, has had a good effect on the health of the smelters, although they are still affected to some extent. There should certainly be a very rigid medical control of the workers in lead industries, more especially in the case of women, who are especially sensitive to the poison. There should be a period of probation; some persons are

far more susceptible than others; the susceptible should be eliminated at the outset. It is vain to tell a man who has learnt his trade that he cannot continue his work with impunity; it is too late for him to go and learn a new trade; he prefers, usually without hesitation, to accept all the dangers of his own trade. The age at which a youth or girl may be permitted to enter the lead industries should certainly be high, for it is about puberty that its effects are often most disastrous, and at this early age there is great recklessness in regard to the necessary precautions. At present, unfortunately, there is a tendency to the employment of very young girls at the white lead factories, and as enamellers, &c.; and in the Stafford pottery industries the majority of the dippers employed by some prominent manufacturers are mere lads. The strict use of precautions will still be necessary. At

present it is very difficult to ensure the observance of these. The workers are young, ignorant, reckless, often drawn from the lowest class and brought up with no traditions of personal cleanliness. Dr. Malet, the Medical Officer of Health for Wolverhampton, writes, for instance, with reference to the japanners: "The handkerchief over the mouth is a perfect farce, the women seldom or never wearing it." Even when the prescribed precautions—such as washing the hands before meals and the use of sulphuric acid lemonade—are observed, it is not uncommon to find plumbism still occurring in an individual who is susceptible. Intemperance and the use of alcohol frequently determine the appearance of an attack of plumbism; on the other hand, wholesome food is to some extent protective; it is said that a free breakfast has materially diminished the cases of poisoning

in some of the white lead works. All these preventive measures require investigation, and strict enforcement where necessary.

I have dealt briefly with one group of dangerous industries. It is but a specimen of the groups which might be brought forward. In our love of independent individual initiative, and in our anxiety to ensure to the employer the right to poison, and to the worker the right to be poisoned, we cheerfully build hospitals for the victims of these lead industries to die in, or to be patched up in a sufficiently sound way to stand further poisoning; and we establish asylums for those who are hopelessly ruined. But would it not be more reasonable, more humane, and also more economical, to begin at the beginning by organising and overseeing these dangerous industries?

XIV.

THE LAISSER-FAIRE SYSTEM.

The picture of disease and misery presented by Russia—Birth-rate and death-rate—In famine time—Ordinary conditions of insanitation — Russian factories — The cholera epidemic—The lesson of Russia.

THERE are many persons even to-day who are somewhat sceptical as to the desirability of organising the conditions of health. It is an advantage to be able to present a picture of the state of things under what is practically a *laisser-faire* system with regard to the preservation of public health. We have such a picture in Russia. Russia possesses elaborate statistics as to the state of public health, and is beginning to adopt various energetic measures for its

preservation. At present, however, these measures are in an early stage, and the Russian statistics reveal to us an awful picture of misery, disease, and death on a gigantic scale.

There is but one doctor in Russia to every 12,000 inhabitants, and, as is usually the case, owing to the concentration of the profession in towns, the proportion for the country districts is still lower. The people, we are told, place great confidence in their own quacks and witch-doctors. The latter employ spells and herbs, with occasional orthodox remedies, such as mercury in syphilis. The witches also supply the population with poisons to put in each other's gruel. In these circumstances the figures yielded by statistics as to the prevalence of disease must be very much below the actual facts. Still they are sufficiently remarkable. In one year (1886), nearly

88,000 persons are set down as having been treated for small-pox, and nearly 17,000 as having died; 97,000 persons were treated for scarlet fever, and 18,000 died; nearly 84,000 for diphtheria, of whom 30,000 died; 132,000 for measles, of whom 12,000 died. And so on with other related diseases. The prevalence of typhus is especially noteworthy, because it is the disease of filth, overcrowding, and starvation; it is now rarely met with in this country, but in Russia 252,000 are set down as treated for this disease in one year, and 15,000 died; in previous years the mortality has been much higher; in 1881 the number of cases quadrupled, and during some months the mortality rose as high as 50 per cent. Scarlet fever has become more prevalent and more fatal; in the government of Elizavetpol there was a mortality of 66·7 per cent. It need scarcely be added that there are no

methods of checking the dissemination of these diseases. The clothes of infected persons are not subjected to any process of disinfection, even in the majority of hospitals. We find, indeed, one attempt to check the spread of disease: it is prohibited in one diocese to administer the sacrament with the same spoon to the sick and healthy! Typhoid fever in 1886 was present in every government in Russia, except Tiflis and Eriván, and it has been on the increase, though the mortality has decreased. The chief causes of its prevalence are considered to be the pollution of the soil, and the throwing of sewage into the rivers. Filth is often heaped up on the banks of the rivers, or remains for months in the courtyards of the houses. Insufficient and improper food is responsible for a large amount of disease. There were 105,000 cases of dysentery, with a mortality in

Eriván of 44 per cent., and the disease, which attacks children chiefly, in summer and autumn, is largely traced to the consumption of unripe fruit and vegetables, and the drinking of impure water. There is an extraordinary prevalence of blindness. According to the statistics in the census of 1886 in fifty governments of Russia there were 21 blind persons to 10,000 inhabitants, or almost five times more than in Holland, four times more than in Austria and the United States, and three times more than in Saxony, Denmark, and Switzerland. There is a vast infant mortality among the working population, due largely to the scanty use of milk, and to every imaginable sin against the laws of dietetics; infants at the breast, also, are often attacked by a disorder of digestion to which the people have given the descriptive name of *gryz* (gnawing). Out of 1,000 deaths, the proportion

of infants under one year is 113 in Norway, 190 in England, 216 in France, and no less than 313 in Russia. In some of the provinces of Russia 60 and even 67 per cent. of the children die during the first five years of life. Serebrenikoff has given interesting details concerning Irbit, a town in the government of Perm, distinguished for its absolute neglect of sanitary considerations; the mortality of children in the first year of life here reaches 44·9 per cent.; and children under five years of age constitute half of the total mortality, though this is so large that it considerably exceeds the births. And this mortality is ever present in the town; it is not the chance of a single year.

Of 1,568,315 boys born in Russia in the year 1858, only 750,622 were alive in 1879, and when out of this number 272,974 were examined for the purpose of military conscription, 58,824 men—*i.e.*, 21·5 per cent.—were

found to be suffering from various incurable or chronic diseases, and had consequently to be returned as unfit for military service. So that of all boys born in 1858, 47·8 per cent. reached their twenty-first year, but only 37·6 per cent. preserved good health.

The birth-rate is higher in Russia than in any other part of Europe, but the death-rate is also higher than elsewhere, and sometimes even exceeds the birth-rate, while the significant fact must be noted that it is often even larger in the country than in the town. Dr. N. Leinenberg, of Odessa, from whom some of the facts I have quoted are taken, presents an awful picture of the mortality of Russia.* The excessive mortality in Russia forms, also, the subject of an interesting monograph by N. Ekk. According to this authority, in Russia there

* Die Sterblichkeit in Russland, *Internationale Klinische Rundschau*, Sept., 1889.

die every year per thousand 9 individuals more than among the same number of Germans, 12 more as compared with France, 15 with England, 18 with Sweden and Denmark, and 19 more compared with Norway. An excess mortality of 15 means a loss of 1,650,000 lives to the State in one year. And this is mainly due to neglect of the most elementary sanitary precautions.

During a period of famine, such as occurred in 1891-92, it is needless to say that the picture of filth, disease, and death presented by Russia becomes even far more terrible. During the famine in question an epidemic of malignant scurvy made its appearance simultaneously in many of the famine-stricken regions. It attacked most severely adult women, especially those already suffering from syphilis or other chronic disease, while upwards of 50 per cent. of the patients seeking medical aid

presented milder scorbutic symptoms. At the same time all the other infectious diseases, so prevalent in Russia, became aggravated in extent and in intensity. The hospitals overflowed with infectious cases, especially typhus; accommodation and medical aid were alike inadequate; and the doctors, overworked and themselves often suffering from poverty, died of the same diseases as their patients.*

Even in the two chief cities of the Empire, and in the houses of the well-to-do classes the simplest hygienic principles are systematically disregarded. Everywhere in Russian towns filth and rubbish are piled up to cause by their organic decomposition the pollution of air, soil, and water. Scores of regulations are made at St. Petersburg concerning dwellings, shops, markets,

* "Famine and Disease in Russia," *British Medical Journal*, May 7, 1892.

streets, &c., but no one carries them out unless compelled to do so. "The shopkeeper is kept in awe by unexpected and rapidly executed raids on his establishment. Protocols, processes, and fines follow. The most obvious result of the system is that no one cleans his back staircase, his courtyard, or shop, or gives up selling all kinds of adulterated foods, of which margarine is the least offensive, till compelled so to do by a visit of the police or a citation before a court. The population generally presents a massive inertia, and never itself shows any sanitary enterprise. From every government we find reports of the pollution of the water-supply due to the dirty and ignorant habits of the people or the economy of manufacturers in getting rid of their waste products. Even in St. Petersburg there exist to this day no drains, the sewage being removed in open carts. A

town filter has just been completed, thirty years after the installation of water pipes. The Town Council—a representative body, be it observed, here as elsewhere—were found till lately in opposition. Even one of the chief analysts pooh-poohed the filter because it only removed fish, molluscs, weeds, &c. At the metal gauze which forms the first filter there might be established a flourishing biological station to study the flora and fauna of the icy bottom of the Neva. An inspection of various educational establishments and manufactories (especially those called *kustarny*, of the character of village or domestic industries) has revealed the total inadequacy or absence of hygienic requirements. The same story comes from the prisons, in spite of their decenniad of reformed existence. The recent report of the Commission of Inquiry into the working of the Kursk-

Kharkov-Azov Railway, on which line the Borki accident occurred a year ago, has revealed horrors of insanitation almost beyond belief. In the case of convict parties on the march to their destination in Siberia or to the Amur, the details published by Kenyon and Frost in the *Century* magazine are only corroborated by other observers. But, it must be remembered, quite similar sufferings are undergone by the *pereselentsy*, or bands of peasants migrating from European Russia to their new homes. They often carry typhus with them, and communicate it to the villages which harbour them on the road. And these ill-planned wanderings constantly end only in the return of the ruined and hunger-stricken bands to their original abodes. To combat all these evils, the central and local authorities have hitherto done practically nothing." *

* "The Health of Russia," *Lancet*, January 11 and 18, 1890.

At the International Congress of Hygiene, held at Paris in 1889, Madame Thatcheff read a very interesting and carefully prepared paper on the Condition of the Working Classes in Russia, which produced a deep impression on the Congress. Irrespective of Siberia and Poland, she said there were about 932,000 operatives employed in the mills and factories of Russia. The way a considerable proportion of these workers were recruited had a great influence on public health. Many of them were agriculturists, who, being unable to earn enough to live, came to the industrial centres and worked in factories from September to February. They had no homes in those industrial centres, but slept very often in the factory itself, in the midst of the machinery, or in a sort of dormitory provided for them just above the works, and separated from the works only by a rude

wooden floor, through which all the bad odours passed. Here the workers lay down on wooden shelves. They slept in their clothes, and at best had a little sacking. The shelves were placed one above the other, so that sometimes there were only a hundred cubic feet of space per person. All the inspectors appointed by Government to inquire into these questions had complained of the dirt, overcrowding, and the promiscuity, for men and women often slept in the same dormitory. The hours of work varied from twelve to fourteen, and the food was altogether insufficient. The clothing was also of the poorest description. It was rare that a man could afford to wear leather boots, but contented himself with wrapping his feet in paper and rags and thrusting them in woollen shoes. Shirts were considered a vain luxury, and but for the sheep's skins, worn with the wool inside,

the people would die of cold. This sort of life soon destroyed all sense of self-respect, and fearful immorality was the result. The migrations of villagers into towns for a short time each year had brought back syphilis to the villages, and there were some villages in Russia where every single inhabitant was syphilitic. In some departments 10 per cent. of the recruits were syphilitic. There was but one redeeming feature: the Russian, however poor, always insisted on having a bath. He would as soon go without his food as go without his weekly bath. There were no statistics to show what was the mortality of the Russian working-class population, but the general mortality was sufficiently significant.*

Such is the usual state in which the

* I quote from the *Lancet's* excellent report of this Congress.

elementary conditions of health are found among the Russian people. Under unusual conditions everything is, of course, much worse. This may be judged by the reports which have reached us from time to time concerning the recent cholera epidemic. We have heard of disease raging unchecked, of scarcity of doctors, while of the few who were at the post of duty many were driven away, some even killed—thrown into the streets, or soaked in kerosene and burnt,* while vast crowds assembled outside the hospitals, set fire to them, and cried, "Let the cholera rage as it will!"

It is true that in this country we are far removed from Russia when viewed from the sanitary point of view; but it must be remembered that in many or most respects the condition of things found in Russia to-day corresponds with that which existed in

* This appears to have happened in Astrakhan.

Western Europe, not only in mediæval, but in much later times. We have emerged from such conditions, and the fact that so much progress is possible is a stimulus to still greater progress. Not the least value of the example of Russia lies in the proof it offers that in these matters—as indeed in most others of social concern—the good intentions of a despotic government, and the enlightenment of a small minority of the population, are utterly helpless in face of the ignorance and apathy of the mass of the population. Here as elsewhere we are concerned with the true significance of democracy. It is the extension of enlightenment that we need more than its intension. The nationalisation of education precedes and leads by the hand the nationalisation of health.

XV.

CONCLUSION.

The tendencies now making towards the nationalisation of health (1) Growing discontent with present lack of system; (2) The beginning of organisation; (3) The inadequacy of private practice under modern conditions—Every medical man must be a force on the side of health-preservation—The organisation of hospitals leads inevitably to the health-organisation of occupations—The difference in mortality of various occupations—The co-operation of workmen necessary—The varying healthfulness of towns—The nationalisation of health compared to the nationalisation of education—Economic aspect—The nationalisation of health leads to its internationalisation.

We have now seen something of the various tendencies that are making towards the nationalisation of health.

There is, first, the growing discontent with the present irregular and expensive

methods by which what is really a great public department is conducted by means of institutions which, with all their undoubted advantages from the medical and scientific standpoint, combine, so far as administration is concerned, the defects of being voluntary, charitable, isolated, and irresponsible; the absence of organisation and co-operation alone constituting a defect which no perfection of administration in individual hospitals could compensate. This growing discontent no doubt accounts for the fact that the income of the hospitals is on the whole a diminishing quantity, and it has now found authoritative voice in the Report of the Lords' Committee on Metropolitan Hospitals.

Then in at least three directions we are able to see how advantageous, as well as economical, is an organised system of public health and public medicine under State or

municipal control. The great municipal infirmaries which are everywhere arising now only need development to rival the best of the endowed voluntary hospitals. The admirably organised system for battling with infectious disease, which is in the hands of the Metropolitan Asylums Board, shows, like the London Fire Brigade system, how fine and precise an instrument for dealing with emergencies can be constructed with sound centralised methods.* Above all, we see around us the formation of a great network of public health, with a vast corps of medical officers of health,

* Thus during the week in September, 1892, when the London epidemic of scarlet fever was at its height, and there were about 3,400 cases of the disease under treatment in the Metropolitan Asylums Hospitals, the deaths were only 27, actually below the average number for the corresponding week of the preceding ten years. Sanitation does little to prevent the spread of scarlet fever, but in many parts of the country even the earliest attempts at notification and isolation have diminished the mortality from the disease by about 25 per cent.

banded together in the effort to secure reasonable conditions of public health in certain of its more elementary aspects; and everywhere we witness the activity of the County Councils stimulating the energy of the medical officers of health.

In the third place, we are brought face to face with the obvious inadequacy and dissolution of the system of private practice. We scatter medical men across country and town, giving them perhaps a dispensary with a miscellaneous assortment of drugs and a few instruments (sometimes so old that the possessor cannot use them, or so new that he does not know how to use them), and we expect from him, and even feel that we are entitled to expect from him, all the skill and resource of a fully equipped hospital. He is expected, as a private practitioner has ingeniously expressed it, "to be ready with his services to rich and poor

alike; to be prepared at a moment's notice to undertake cases of every description—from abscess to anæmia; from baldness to bronchitis; from colic to cirrhosis; from delirium tremens to dropsy; from epilepsy to epithelioma; from febricula to fistula; from gangrene to gout; from hæmorrhoids to hernia; from inflammation to insanity; from knock-knees to kleptomania; from leucorrhœa to lock-jaw; from measles to *mal-de-mer;* from nephritis to nævus; from pimples to paralysis; from rickets to rheumatism; from sick headache to syphilis; from toothache to tuberculosis —for each and every bodily ailment he is expected to give advice and prescribe remedies."

This is far from an exaggeration; and it can scarcely excite surprise that the usual reward of the necessarily perfunctory work of such a Jack-of-all-trades is, as the same

writer goes on to say, "the hardly-veiled sneer of the consultant and the patronising condescension of the patient." To make the private practitioner's position still more absurd, it now frequently happens that he is at the same time medical officer of health; so that during part of his time his interests are bound up with the prevention of disease, and during the rest of his time with its causation; as a medical officer of health he is taking the bread out of his own mouth as a private practitioner. That he is able to get through these anomalous duties in a conscientious manner says much for his moral character, but very little for the system, or want of system, that he is forced to carry out.

Along, then, at least these three lines—the growing discontent with the present lack of method in the organisation of public medicine, the tendency of a sounder system

to realise itself already, and the perception of the increasingly untenable position of the private practitioner—it is possible to discern the hope of better things. Under any rationally organised system every medical man would be a force on the side of health; it would be his primary duty not to seek to pull out with spasmodic effort the mangled wretches who float down to the sea in the great torrent of disease and misery, but to help to maintain firmly the dykes which protect us against the sources of disease and misery.

There will doubtless remain a limited scope for the activities of the private practitioner; there is at the least the great field of "minor ailments;" but he will have at his back the hospital, largely reformed into a Health Institute, with which his duties will keep him constantly in touch, and with which his interests will be bound up. The

exact methods by which this reform will be effected constitute a problem which the future must settle, but its gradual realisation has in the course of events become not merely desirable but inevitable.

But, as we have also seen, the organisation of the hospital is but a part of the nationalisation of health. A no less important part is the inspection and reasonable regulation of all forms of industry which, carried on as they so often are at present under unhealthy conditions, do so much to choke our hospitals with diseased or disordered persons. So long as hospital relief is largely left to voluntary charity, the community has collectively an excuse for believing that it is not directly interested in the prevention of disease. The greed of certain members of the community, it is true, produces unhealthy conditions of work, but the charity, it may be said, of (in large

measure) these same greedy members goes to relieve the victims of the unhealthy conditions. When the community has a direct interest in the cure of disease, it will perceive, with no great intellectual effort, that it has a direct interest in the prevention of disease. Medical officers of health and inspectors of industry must be recognised as, if not members of the same public department, very closely allied in their functions.

The work of statisticians already presents results which are full of light for us in the task of nationalising health. How is it, for instance, that there are such immense differences in the mortality of those engaged in different occupations? * It is

* See Supplement to the Forty-Eighth Report of the Registrar-General, 1885; Dr. Ogle's and M. Jacques Bertillon's papers read to the Congress of Hygiene, 1891; and the recently published *Diseases of Occupations* (1892) by Dr. Arlidge, who has devoted many years to the study of this important subject.

clearly unreasonable that such enormous discrepancies should exist. If, after full investigation, it is found that certain occupations are inevitably attended by unusual risks, then such occupations should be supervised with especial care; the extraordinary dangers they present should be met by extraordinary precautions. It would probably be found in most cases that those unusual risks are, in a large proportion of cases, not inevitable.*

* It need scarcely be said that these questions cannot be decided without the co-operation of the workmen themselves; and that under wholesome conditions of work at least a certain freedom of organisation must be left to the workers.

I quote (from *Freedom*) the following excellent suggestions by a workman regarding his own and allied occupations:

"In the trade I am employed in—the building line—there is a great deal of hard and dirty work, which is quite unnessary, *e.g.*, carrying the hod, mixing mortar by hand, wheeling navvies' barrows, and other such work I could mention, which it has been proved could be done by machinery; only slaves in these cases are cheaper than machines, so machinery is not used.

"Again, in the painting line, it is very unhealthy and dis-

The vast difference between the healthfulness of towns is another matter in regard

agreeable to have to work ten or twelve hours in the midst of white lead and other poisons, not knowing from one day to another but that you may have the painter's colic; but if the hours were less and the men had time to be clean and to take an interest in their work, painting would become a pleasure instead of drudgery.

"In the paper-hanging line it is a pleasure to hang good sanitary paper, and it is perfectly safe; but how many paper-hangers have lost their lives by the poisonous colour coming off the common paper, which makes paper-hanging unhealthy and disagreeable, and is used simply in consequence of the competition amongst paper manufacturers to undersell one another.

"In the plumbing line there is not much that is in itself disagreeable or unhealthy work. The hardship is to be working for eight or nine hours a day amongst lead, and constantly handling it. That not only becomes monotonous, but often results in lead-poisoning.

"Besides these particular evils I have mentioned as brought about in these special branches of my trade by the present system of organising labour, there are others which apply to all branches of building, *e.g.*, the fixing of unsafe scaffolding, using rotten boards and ladders, and being obliged to climb about without proper precautions; all of which go to make the men's lives uncomfortable, and all of which we could put an end to if we could have a free use of capital and organise our own work. If a mere race for

to which at present there is a widespread indifference. That a person who lives in Preston should have on every hand far more chances of disease and death than one who lives in Brighton is, unfortunately, far too simple of explanation; and within no easily measurable period will the health standard of the one town be levelled up to

profit were not the object of the present organisers of industry the unhealthy, dangerous, and disagreeable work could be almost entirely banished from our trade, and with the aid of improved machinery what remains could be very easily planned and carried out by co-operation amongst ourselves. . . .

"Now in the painting line there are different kinds of work; some are dangerous, while others are quite safe. Yet even as things are, the men, *if left to themselves*, soon find out who is willing or who prefers to do the top work, and if none of them like it, they arrange to take it in turns; whilst, *if the master interferes*, it very often falls to the lot of one to do all the top work, and perhaps he is giddy or nervous or in some way the most unfit man for the job. Very often accidents occur in this way; but I have never yet seen a case where a man who is nervous has been compelled by his fellow-workers to do anything dangerous. Indeed the men are mostly willing to help or take the place of a nervous man who has got a dangerous job."

that of the other. But why should towns which exist under almost the same conditions display such wide differences from this point of view? Birmingham and Manchester are both great inland manufacturing cities, not very far apart from each other, yet there is a difference between them in the death-rate, amounting at times to nearly 40 per cent. The key to this difference lies in the fact that Birmingham is, from the sanitary point of view, a well-governed city, while Manchester is notoriously an ill-governed city. The root of such ill-government can only lie in the ignorance and apathy of the inhabitants in respect to their own vital interests.*

The case for the nationalisation of health may be compared to that for the nationalisa-

* With reference to the growing evils of town life, through defective air, light and space, and for the methods of combating these evils, see Dr. Sykes's *Public Health Problems* (Contemporary Science Series), 1892.

tion of education which has for some years been accomplished in this and other civilised countries. It is difficult to bring forward any argument in favour of the nationalisation of education which does not apply even more strongly to the national recognition of health. The advantages of public over private education, undoubted as they are, are comparatively trivial compared with the advantages of an organised medical service over the present irregular private system. Under no national system can training of the mind be placed before the life of the body. Moreover, in England (unlike our large colonies) class distinctions are still so marked that a very small proportion of the well-to-do classes care to avail themselves of public education, while the same class are prepared to take what is at present an unfair advantage of the present charity hospital, and would certainly avail them-

selves of the advantages of the national hospital. Yet we know that as soon as a sound scheme for the nationalisation of education was presented, and its advantages perceived, it was generally accepted. We can scarcely doubt that the far stronger case for the complete nationalisation of health, when once clearly presented and fully understood, will meet with similar acceptance. It is certainly the duty of all those who realise the magnitude of the issues involved to take every opportunity to spread information on the matter, and to create an intelligent public opinion.

It is true that the nationalisation of health is a somewhat more complicated task than the nationalisation of education. We cannot expect to find it fully established within a few years. In accordance with our usual British methods, it will be a matter for compromise and for gradual, even voluntary, expe-

riment. And in the first place it will involve expenditure, although for the foundation of national hospitals the present poor-law infirmaries and charitable hospitals furnish a basis for operation which did not exist in the case of education. Yet even if national health were heavily to "burden the already over-burdened ratepayer"—to use the stereotyped phrase—it would not be difficult to set forth the soundness of such expenditure. It is really a question, even in the financial sense, of economy.* There are very few households that, under a rationally organised system of health, even with the heaviest hospital-rate, would not find themselves better off at the end of the year than they are now. When the trouble

* Every trifling outbreak of infectious disease involves not only a large indirect loss through decrease in trade, etc., but also a considerable direct loss. Thus a slight outbreak of small-pox at Wakefield recently led to a supplemental call on the overseers equal to a rate of twopence in the pound.

and misfortune involved are also considered, the balance of advantage in favour of an organised system is almost incalculable. And a nation that can afford to spend indefinite millions on a show navy or a petty war among remote barbarians * can certainly afford to inaugurate a better state of things in a matter which touches every member of the community so closely home.

The nationalisation of health, as here advocated, is not used in opposition to any conception of its internationalisation. It is simply used as a convenient term to indicate a rational and organised system of securing the conditions of health as against the private, individual, sporadic lack of system which, as we are now fortunately beginning

* As a distinguished sanitarian, the late Dr. Alfred Carpenter, pointed out a few years since, while nearly £35,000,000 are expended on self-defence, less than 1 per cent. is devoted to medical purposes.

to recognise, is no longer suited to the needs of our time. The nationalisation of health leads up to the internationalisation of health, and must to some extent go hand in hand with it. This was well pointed out at the International Workers' Congress of 1889 by Dr. Cæsar de Paepe, who, as himself both the son of a simple workman and physician to one of the largest hospitals in Brussels, speaks with recognised authority on the question of sanitation among the masses. On this occasion he proposed that the Legislatures of all countries should combine to prohibit the use in factories of poisonous substances, such as lead and phosphorus, when these could be replaced by non-injurious materials. Where the use of poisonous materials was inevitable, then the industry should be subject to very strict protective regulations. As all these reforms and remedies were to be of an international

character, and the labour parties of each country were to press them upon their respective Governments, and make these Governments come together and agree to a general assimilation of labour laws, Dr. de Paepe urged that international inspectors should be appointed. If an abuse was abolished in another country, it was sure to reappear on the other side of the frontier. Thus, in one country the use of salicylic acid for the preservation of beer is abolished, but it is largely used in another; and while toys made in one country are dear, but free from poisonous paints, toys made in another are cheap but not so harmless. As for the difficulty of applying internationally laws of this description, there already existed international laws relating to fishing rights; and surely, if it was possible to control fishing smacks sailing over the broad seas, it was more

easy to watch over workshops and factories.*

These proposals bring forward an aspect of the question on which we may well finally pause. The maintenance of the conditions of health is not a merely national question. It is impossible to enter on the path of health reform without a strong national sentiment and some degree of realised national progress: but before we have continued long on the path we may at any moment be confronted by the westerly movements of some monstrous epidemic coming out of its Asiatic lair and breathing forth death and misery; and when, again, we turn to the question of the diseases of occupation and the due regulation of employments we are brought face to face with the industrial and commercial web which now covers the

* I quote from the report of Dr. de Paepe's speech in *Lancet*, July 27, 1889.

greater part of the world with threads so sensitive that we cannot touch them at one spot without producing actions and reactions throughout their whole extent. Within our own corner of the world we can doubtless do much to establish the conditions of health; their more complete establishment awaits the international self-realisation of democracy.

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